

Annals
of the
Missouri Botanical Garden

Vol. 22

SEPTEMBER, 1935

No. 3

**AN ANNOTATED CATALOGUE OF THE FLOWERING
PLANTS OF MISSOURI¹**

ERNEST J. PALMER

*Collector and Research Assistant, Arnold Arboretum of Harvard University,
Formerly Collector for the Missouri Botanical Garden*

AND JULIAN A. STEYERMARK

*Formerly Rufus J. Lackland Research Fellow in the Henry Shaw School of Botany
of Washington University*

PREFACE

In 1886 Professor S. M. Tracy of the Department of Botany of the University of Missouri compiled and published a list of the native and introduced plants that had been collected or reported as growing spontaneously in the state. This work, entitled 'A Catalogue of the Phaenogamous and Vascular Cryptogamous Plants of Missouri,' listed 1785 species and varieties and constituted at the time a valuable contribution to the botanical knowledge and literature of the state. However, it was far from complete; little collecting had been done in numerous sections, and many of the records were taken from previously compiled lists or from verbal reports of local collectors, some of which proved to be unreliable or at least based upon erroneous determinations of material. For these rea-

¹An enumeration of "The ferns and fern allies of Missouri," which may be considered supplementary to this catalogue, was published by the authors in the American Fern Journal 22: 105-122. 1932.

Issued September 30, 1935.

ANN. MO. BOT. GARD., Vol. 22, 1935.

(375)

sons, as well as on account of the many changes in nomenclature and in the understanding of species, a considerable number of the plant names found in Professor Tracy's Catalogue do not appear in the present list. The total number of plants now recorded is, however, much larger, due to new discoveries and to the segregation of many species and varieties not recognized at that time.

Since the appearance of the Tracy Catalogue many sections of the state have been made accessible by the building of railroads, electric lines, and more recently of automobile highways, making it possible now for the collector to get into every county, even into the most rugged and thinly settled parts that were quite unexplored botanically at that time. An increasing number of students have become interested in the flora and have coöperated in making it better known through their work in different localities, and a considerable amount of literature, dealing wholly or in part with Missouri plants, has been published, all of which have contributed to a greatly increased knowledge of the state flora.

Perhaps the most noteworthy change has been in the methods of studying plants and in the attitude of students towards them. Fifty years ago plant catalogues and floras generally were little more than lists of species and genera arranged in families, and not much attention was given to plant associations, succession, ecology, or to the causes determining the distribution of plants and the development of floras, some understanding of which opens up one of the most interesting and significant fields of botanical investigation.

In the preface to his 'Catalogue' the only previous publications Tracy mentioned as sources of information were 'A Partial Catalogue of the Plants of Illinois and Missouri,' based upon collections of Mr. Geyer, and published by Dr. Engelmann in 1884; 'The Flora of Jackson County,' by B. F. Bush; and such general works as Gray's 'Manual of Botany,' and the government reports of King and Wheeler. He acknowledged notes, collections, and assistance received from Professor Swallow, State Geologist, Dr. Pech of Louisiana, Mo., Mr. Geyer, Dr. Engelmann, and others of St. Louis, Professor

G. C. Broadhead of Pleasant Hill, Mr. George W. Letterman of Allenton, Mr. B. F. Bush of Independence, Mr. B. T. Gallo-way of Columbia, and Professor Trelease of Washington University. Only a few other works dealing particularly with the flora of Missouri or containing references to it had appeared up to that time, and the list of other collectors, besides those mentioned by Professor Tracy, was not a long one.

One of the earliest scientific travelers to leave an account of his botanical observations in Missouri was Mr. John Bradbury, an Englishman who traveled extensively in America from 1809 to 1811. In the preface to the account of his journeys, published in Liverpool in 1819, he states that he arrived in St. Louis on December 31, 1809, and during the ensuing year made extensive excursions into the wilderness for a distance of 80 or 100 miles for the purpose of collecting plants. The following year he accompanied an expedition, in company with Thomas Nuttall, up the Missouri River and to the Pacific Northwest. There are references in his 'Journal' to a number of the trees and other plants observed along the river in Missouri, and at the end of the work there is a "Catalogue of some of the more rare and valuable plants discovered in the vicinity of St. Louis or on the Missouri."

It appears to have been the intention of Bradbury to publish a flora or a full list of his botanical collections, but this intention was not carried out for several reasons. Part of his collection was lost or damaged in transit to England, and his travels in America were cut short by the War of 1812. Upon his return to England he discovered that the part of his collection that had arrived safely had been submitted to Mr. Frederick Pursh, who had described a number of the new species in an appendix to his 'Flora Americae Septentrionalis.' Thus Pursh, who had traveled in other parts of North America but who had never been west of the Mississippi River, became the first botanical author to describe plants collected in Missouri.

In 1818 and 1819 Henry R. Schoolcraft made a journey through the almost unexplored Ozark region for the purpose of scientific study. He has left an interesting account of his

adventures and of the country, and although he was more concerned with the geology and other features of the natural history than with the flora, he mentions some of the trees and other plants, and his general description of the country gives us a valuable picture of it at that time.

About the same time Thomas Nuttall set out on his journey to the Arkansas Territory, traveling down the Mississippi to the mouth of the Arkansas River and making notes on some of the plants seen on the way. Nuttall's direct contributions to the study of Missouri botany are not large, but a number of Ozark species extending into the state from the south are mentioned or were first described by him.

Several of the early reports of the State Geological Survey contain references to the flora or give lists of trees and shrubs. B. F. Shumard, G. C. Swallow, and G. C. Broadhead were amongst the early state geologists who paid some attention to the flora, Broadhead collecting many plants in Cass County, where he lived, and in other parts of the state.

Amongst the more important lists of Missouri plants since the publication of Professor Tracy's Catalogue are a 'Catalogue of the Phaenogamous and Vascular Cryptogamous Plants in the Vicinity of St. Louis,' by Henry Eggert, 1891, 'A Manual of the Flora of Jackson County,' by K. K. Mackenzie and B. F. Bush, 1902, 'The Flora of Columbia and Vicinity,' by Francis P. Daniels, 1907, and a recent revision of this plant list by H. W. Rickett, 'A Preliminary Check List of the Cryptogams and Phanerogams in the Vicinity of St. Louis,' by members of the Engelmann Botanical Club, 1911, 'A Catalogue of the Plants of Jasper County,' by E. J. Palmer, 1916, and 'A List of Missouri Trees,' by F. Dunlap, 1929. Besides these there are numerous papers dealing with special families or genera of Missouri plants or with the flora or ecology of local areas, a complete list of which will be found in the bibliography.

In the process of working out the details of the flora of a large and diverse region such as the state of Missouri, it is unavoidable that certain parts should receive more attention or should become known earlier than others. This is partly due to differences in accessibility or nearness to centers of popula-

tion or to institutions of learning, and partly because certain students or collectors study the flora of the particular vicinity in which they live, while that of the rest of the state is investigated only sporadically by itinerant collectors, usually on hasty expeditions.

St. Louis, Jefferson, Franklin, Boone, Jackson, Jasper, and Greene counties seem to be the only ones in the state in which anything like an exhaustive study of the flora has so far been made. In several others extensive collecting has been done and the flora is fairly well known. Amongst these are Clark, Shannon, Dunklin, Butler, Atchison, and McDonald. There has also been considerable exploration in the counties of Ralls, Marion, Pike, Warren, Madison, Iron, St. Francois, Reynolds, Wright, Saline, Stone, Taney, Barry, and Newton, but many of the inconspicuous plants and probably some of the rare ones have never been collected or recorded. The flora of many of the other counties of the state appears to be quite inadequately known. On the whole, much more botanical work has been done in the area south of the Missouri River than in the northern part of the state, partly due to the fact that the Ozark region is more varied and contains many more rare plants. However, the counties to the north of the great river also hold much of botanical interest, and they would certainly repay a more intensive study. It is quite possible that a number of species of which the range is given as central and southern Missouri, because of lack of other records, will be found to extend also into the northern part of the state.

In this catalogue we have attempted to give the range within the state, so far as it is known, for each species, and also to note the type of soil on which it is usually found. The 114 counties of the state have been taken as convenient units for working out the distribution, and these are cited in addition to the general range for many of the less common plants or those confined to certain sections of the state. Common plants that grow in all parts of the state are listed as of general range, and in many cases they can be found in every county.

For the purpose of giving the general geographical range of species the state has been divided into three nearly parallel

zones of different width, which are called northern, central, and southern Missouri. Three zones are also recognized from east to west: eastern, middle, and western Missouri. However, since the east and west boundaries of the state are so irregular, it is not practicable to follow meridian lines, and a sketch map is given to show the general extent of these divisions. County lines are also irregular, and the entire county may be considered as belonging to the division in which the major part of it lies. In the case of a few counties that are approximately evenly divided by these lines, Reynolds and Crawford may be placed with eastern Missouri, Hickory with western Missouri, and St. Louis with central Missouri.

We have endeavored to bring the nomenclature up to date according to the International Rules, and in this we have followed the decisions of the Gray Herbarium for herbaceous plants and that of the Arnold Arboretum for woody species. No complete synonymy is attempted, but to aid the reader in locating unfamiliar names some synonyms are given, and where the name used is one that has not yet appeared in the general manuals, reference is given to the place of publication and in most cases to the name used in the seventh edition of Gray's 'Manual' (G), in the second edition of Britton and Brown's 'Illustrated Flora' (B & B), Rydberg's 'Flora of the Prairies and Plains' issued in 1932 (R), or in Small's 'Manual of the Southeastern Flora' issued in 1933 (S). The abbreviation Rh., which is frequently used, refers to 'Rhodora,' and auth. to author or authors. Other abbreviations for the titles of publications and for geographical names will be obvious, we believe, and most of those used for the names of authors may be found by consulting the list given in the seventh edition of Gray's 'Manual.'

Popular names of plants are of considerable interest both to botanists and laymen and those known generally or locally are given in this catalogue, but it has not been thought worth while to coin names nor to translate scientific ones. Some of the popular names are quite characteristic, and not all of them seem to have found their way into literature. Amongst examples of these are bodare, chinquapin (oak), yanquapin,

sheep-sour, tonguegrass, and pursley. Any Missouri farmer, at least of an older generation, can tell you about his bodarc hedge—often pronounced "bodock," and evidently a corruption of the French *bois d'arc*. Chinquapin and yanquapin are



Fig. 1. Map of Missouri, divided into zones to show geographical range of species used in this catalogue.

of Indian origin, and the former, commonly used in some sections for *Quercus Muhlenbergii* without the additional word oak, is sometimes confused with the native *Castanea ozarkensis* found in the extreme southern part of the state, and to which

it properly belongs. The Missouri schoolboy or girl is familiar with sheep-sour and tonguegrass, although he might not recognize sheep sorrel and peppergrass. Likewise the thrifty housewife in search of spring greens can tell you the difference between narrow-leaf dock, which is good to eat, and broad-leaf dock, which is bitter, and she knows the excellent qualities of the young sprouts of poke-weed and lamb's quarter (not quarters). The farmer too knows his pursley or "pusley," but only the city chap has heard of purslane. Crab-apple and not crab is the name given to the native species of *Malus*, and the woodsman might sniff at hearing a red haw called a thorn or a hawthorn as quickly as he would at the mention of a brook or a marsh, although he knows all about a branch or a slough. Old-man's-beard and Dutchman's pipe show the whimsical turn of mind, and there is a bit of slightly grim humor in such names as shin oak, beggar's lice, devil's claws, tear-blanket, and wait-a-bit.

The principal sources drawn upon in compiling this catalogue and in working out the distribution of species are, first, the collections in the herbarium of the Missouri Botanical Garden, the Gray Herbarium, the Arnold Arboretum, the National Herbarium for the grasses, and in some cases other public and private collections, including those of the University of Missouri, Columbia, the State Museum collection, Jefferson City, the herbaria, mainly local, of the following colleges: Central Wesleyan College, Warrenton; Cotty College, Nevada; Drury College, Springfield; Hannibal-Lagrange College, Hannibal; Missouri Valley College, Marshall; Park College, Parkville; State Teachers College, Springfield; and William Jewell College, Liberty; second, lists and monographs in which Missouri specimens are cited; and third, the unpublished notes and correspondence of the two authors, supplemented by notes and correspondence from other collectors. Free use has also been made of manuals and general works on botany, and these have been cited only where necessary for the sake of clearness, but a full list of the titles will be found in the bibliography. In addition to our previous work, extending in the case of the senior author over a period of thirty-five years, much intensive col-

lecting has also been done during the progress of this catalogue. In the summer of 1933 the authors spent several weeks together collecting in various parts of the state; and during the past three years the junior author has made several extended tours, visiting many counties where collections were especially needed to complete the records. As a result of these explorations a number of species not previously known in the state have been added to the flora; others have been found to extend into sections where they were not formerly known, and much valuable information has been secured in regard to the distribution and the composition of the flora in the different regions of the state.

There seems to be always a temptation in preparing lists and floras to make them as large as possible, and plants of doubtful occurrence or distinctness are often included. We have endeavored to avoid this error in the present catalogue and to follow a conservative course in admitting species. Many plants that have previously been reported as growing in the state have been omitted because we were unable to find specimens of them or to verify their occurrence. In some of the published lists, especially the earlier ones, species were reported that we now know to be quite foreign to our flora, and these errors in range have been copied repeatedly. It has been necessary to be on guard for such examples, and it is hoped that one result of this catalogue will be to dispose permanently of the report of plants that have been mistakenly included in the state flora.

In preparing the catalogue it has been found necessary to make a number of new combinations in plant names; one new species, three new varieties, and six new forms are also described, and names are proposed for four hybrid oaks. All new names and combinations are by the two authors, except where otherwise stated, as in the genus *Crataegus*, which is treated by the senior author.

While the two authors have cooperated and consulted with each other as fully as possible in the preparation of this catalogue, much of the work has had to be done individually and at two widely separated bases. This has necessitated a certain

division of labor and considerable independent investigation. The introduction and preface are largely the work of the senior author, the latter being in part a summary of an unpublished paper on the origin and distribution of the Ozark flora begun several years previously. He is also responsible for the revision of the genus *Crataegus* and has done most of the work on the other groups of woody plants. Most of the work of examining collections in herbaria other than that of the Arnold Arboretum has devolved upon the junior author, who has checked the large collections of Missouri plants in the herbarium of the Missouri Botanical Garden and has visited numerous other scientific institutions in the state and in other parts of the country, including the Gray Herbarium and the National Herbarium. In the course of this work he has found it necessary to question or change the determinations of many specimens and to eliminate a number of plants that had been credited to the state on misidentified specimens. The compiling of the bibliography of Missouri botany is also largely the work of the junior author.

Due recognition should be given to a number of collectors since the publication of Tracy's Catalogue whose assiduous efforts have contributed much towards extending our knowledge of the flora of Missouri. Amongst these are the late Henry Eggert of St. Louis, and G. W. Letterman of Allenton, who worked out so carefully the flora in the vicinity of St. Louis, as well as doing some work in other parts of the state; Mr. John H. Kellogg of St. Louis, who has carried on their work and extended it into many other counties, including particularly Franklin, Jefferson, Phelps, Texas, and Dent counties; Mr. B. F. Bush, the veteran collector and botanical author of Courtney, who in addition to his long study of the flora of Jackson County, has covered a wide field and done much towards making known the flora of the state; the late Rev. John Davis of Hannibal, who for several years industriously collected the plants of Ralls, Marion, and Pike counties, and also added new records from a number of other counties in the northeastern part of the state; the late Professor E. M. Shepard of Drury College, Springfield, who through his own collections and those of his students, especially Mr. Paul C. Standley

and Mr. J. W. Blankenship, helped make known the flora of Greene and several adjoining Ozark counties; and Dr. H. W. Rickett, Dr. Francis Drouet, and others of the botanical department of the University of Missouri, who are reviving an interest there in a state-wide study of the flora and in reorganizing the herbarium at the University of Missouri. The list might be further extended to include many others who have made local collections or botanical expeditions into various parts of the state.

We wish to express our sincere thanks to Mr. B. F. Bush, who has furnished us many records and specimens for examination. We are under obligation also to the curators and custodians of the botanical collections of the various colleges and museums of the state who have forwarded them to us for examination or placed them at our disposal. Our grateful appreciation is also extended to Mr. C. A. Weatherby, of the Gray Herbarium, for valuable assistance, to Professor Alfred Rehder, Curator of the Herbarium of the Arnold Arboretum, for advice on questions of nomenclature, to Miss Nell C. Horner, Librarian of the Missouri Botanical Garden, for her bibliographic assistance, and to Dr. George T. Moore, Director of the Missouri Botanical Garden, for interest shown in the work and for aid and suggestions.

INTRODUCTION

LOCATION AND AREA

Missouri lies somewhat east and a little north of the geographical center of the United States. The northern boundary of the state is along parallel $40^{\circ} 30'$ north; parallel $36^{\circ} 30'$ north forms most of the southern boundary, but a small section in the southeastern corner extends south to 36° . On the east the state is bounded by the irregular course of the Mississippi River, except for a short distance near the northeastern corner, where the Des Moines River separates it from Iowa. About two-thirds of the western boundary is a line running from the southwestern corner of the state to the Missouri River in longitude $94^{\circ} 38'$ west. North of this, the Missouri River, flowing in a generally southeasterly direction, forms the boundary.

The direct distance from north to south over most of the state is about 300 miles, but the southeastern corner extends 35 miles farther south. It is about 390 miles from the most easterly to the most westerly point in the state, but nowhere is the distance in a direct line so great. At the widest place near the southern border the distance is about 325 miles, while at the narrowest, from just above Hannibal to St. Joseph, it is scarcely 200 miles. It will thus be seen that the state extends farther from east to west than from north to south, although a contrary impression might be gained by a cursory glance at the map.

Compared with the Atlantic coast, the state lies approximately between the latitudes of Newark, N. J., and Norfolk, Va., or between those of Lisbon and Gibraltar in the Old World. The central and north-central parts of California parallel it on the Pacific side. The area of the state is 69,415 square miles, and it is therefore considerably larger than that of the six New England states.

Geographically, Missouri lies in the middle Mississippi valley and on the west bank of the great river. The states of Illinois, Kentucky, and Tennessee lie to the east, Iowa to the north, Nebraska, Kansas, and Oklahoma to the west, and Arkansas to the south. Thus it touches eight states, which is true of only one other state in the union, the neighboring commonwealth of Tennessee.

The state may be broadly described as an undulating plain rising gradually, or abruptly in places, from the Mississippi River towards the west and northwest, where it merges into the Great Plains. This plain is diversified by several pronounced features. On the east is the alluvial and recently formed valley of the Mississippi, varying from a narrow strip of sand and gravel at the foot of rocky cliffs to a maximum width of several miles of flood plain and fertile terraces. And across the state a little north of the center, the Missouri River has carved a similar valley, running irregularly, but mainly from west to east. Many of the larger tributaries of these two great rivers dissect the plain and divide the uplands with a network of alluvial bottoms of varying widths. The greater

part of southern Missouri is occupied by the northern part of the Ozark plateau, which is the most conspicuous and extensive relief feature between the two great mountain systems of the Appalachians and the Cordilleras. North of the Missouri River and west of the Ozark region, the plain is less diversified, and the rolling surface, interrupted only by the usually shallow valleys of the streams, rises gradually and rather uniformly towards the northwest. Finally, in the southeastern corner, abruptly separated from the Ozark plateau, there is a small area of low relief, which is a northward extension of the Coastal plain. Thus, three principal physiographic regions, the Southeastern lowlands, the Ozark region, and the Prairie region, may be recognized in the state, and since the boundaries of the main plant provinces correspond generally with these, it will be worth while to describe them in some detail.

ELEVATION AND DRAINAGE

The rise in the elevation of the land surface from the level of the Mississippi River is very irregular. In the Southeastern lowlands the altitude above tide level over most of the area is between 280 and 350 feet, and the generally level surface is relieved by only one slight elevation along Crowley's Ridge, in Dunklin, Stoddard, and Scott counties. This reaches a maximum height of about 450 feet. In the Ozark region the rise is generally abrupt, and the river, except sometimes for a narrow strip of valley, is bordered by precipitous bluffs. In the Iron Mountain sub-region, about 75 miles west of the river, the surface rises in many places to over 1,000 feet above tide level, and the altitude of the highest points at Tom Sauk and Wild Cat Mountains is approximately 1,800 feet. Most of the area of the Ozark uplands farther west has an elevation of between 1,000 and 1,300 feet and it reaches a maximum of slightly over 1,700 feet in Wright County. On the northern and northwestern sides there is a gradual falling off towards the valleys of the Missouri and Osage rivers. Between these two streams a local area in Morgan County again rises to over 1,000 feet, and in Barry County, near the southwestern corner of the state, the highlands reach an altitude of over 1,500 feet. In the

Prairie region, north of the Missouri, the altitude rises from about 600 feet in St. Charles County to a little over 1,200 feet at the northwestern corner of the state.

The drainage of the entire state is into the Mississippi-Missouri River system, but the considerable differences in elevation and in the hardness and strike of the underlying rocks, and other features of its complex topography have caused the tributary streams to run in various and sometimes circuitous directions before reaching the great rivers. In the northern part of the state the general direction of the streams is southward into the Missouri River, except along the eastern quarter, where they flow mostly southeast into the Mississippi. Most of the streams of the Prairie region are slow-flowing or somewhat sluggish, and in very few places have they developed bluffs or banks more than a few feet high. This is due to the generally soft character of the formations through which they have worn their channels, which is usually glacial drift or Pennsylvanian sandstones and shales. None of the streams in this part of the state attain much size, the largest being the Grand and Chariton rivers.

South of the Missouri River, the drainage from the Ozark plateau, where nearly all of the streams have their sources, is in various directions. In the southeastern part and to beyond the center of the state along the southern border, most of them have a generally southerly course. The St. Francis, Black River, Current River, and the North Fork of White River are the most important streams in this area.

Along the northern side of the plateau the Meramec flows northeast, east, and finally southeast before reaching the Mississippi; the Gasconade and its tributaries flow north and northeast into the Missouri, and the Osage, the largest tributary of that river in the state, flows in a circuitous course, in the main eastward and along the northern side of the plateau, before joining it a little east of the center of the state. In its eastward course the Osage captures a number of north-flowing streams.

White River, one of the larger tributaries of the Mississippi, which has its sources in the Boston Mountains of western

Arkansas, through a great curve to the north flows for a short distance through southern Missouri, in Barry, Stone, and Taney counties, before again turning southeast to cut its narrow valley through some of the most rugged parts of the southern Ozarks, and finally to emerge into the broad lowlands and to join the Mississippi far to the south in Arkansas. In Missouri it receives one large tributary, the James River, and several smaller ones from the north. The influence of this stream on the flora is very great, as it seems to have been the gateway by which many plants from the southwest and others from the southeast have entered.

In the southwestern corner, in the counties of McDonald, Newton, Jasper, and the southern part of Barton, the drainage is westward through Spring River, Shoal Creek, and Elk River, which join the Neosho farther west; and through that stream their waters find their way into the Arkansas and finally into the Mississippi. The direction of these streams has also had an influence on the flora, which is evident in the presence of many species from the Southwest in the area which they drain.

Many of the Ozark streams have their sources in large springs, and the majority are fed by springs along their courses. Most of them are perennial, but often when not at flood stage the water may disappear under the beds of coarse gravel and boulders for some distance, only to emerge again where a ledge of solid rock comes to the surface. Usually they are swift-flowing and subject to rapid rises, sometimes with disastrous results after heavy rains. Only the larger ones have reached the stage of forming alluvial valleys. These are usually bounded by precipitous bluffs, and on one side or other of the valley the stream in its meanderings will often closely approach one of these. Narrow V-shaped valleys and cañons are common along the smaller streams in the more rugged parts of the region, and these, as well as the high bluffs, afford protection to many rare plants, which are generally species of northern range or of the southern Appalachians, although in some situations they are plants of southwestern distribution. The meandering courses of many of the Ozark streams, and sometimes their general direction for considerable distances,

seem to have been influenced or determined by differences in the hardness of the rocks, or by the structure and pitch of the strata through which they have cut their channels, and in some cases there is evidence that their original courses have been much changed or reversed by geological forces during the last cycle of elevation of the region.

All the streams that flow through the Southeastern lowlands have their sources in the Ozark plateau, but in their lower courses they are sluggish, with scarcely defined valleys, and they are often bordered with wide swampy areas. Ox-bow bends and shallow bayous, sometimes widening into shallow lakes, are frequent along their courses, and before the present system of artificial drainage was inaugurated, in times of flood their waters spread over almost all of the area, often rising to a height of two or three feet on the trunks of the forest trees. Such conditions naturally had a marked effect upon the flora, completely inhibiting many species and restricting others to the low ridges and knolls, while favoring aquatic and palustral plants, which formed a large percentage of the flora.

CLIMATE

The climate of Missouri, like that of all the central Mississippi Valley, is marked by great extremes and is subject to sudden changes of temperature. Cyclonic storms and occasionally destructive tornadoes, the latter generally very local, occur throughout the spring and summer months. These sometimes terminate periods of extreme heat and humidity, and are followed by longer intervals of mild pleasant weather. The storms are frequently attended by electrical discharges and by rain, which falls in torrential quantities; and there is sometimes also hail, that may do great damage over limited areas. The winters are generally mild and open for the most part, but they are interrupted by occasional severe storms or "blizzards" that originate in high altitudes and sweep down across the plains, bringing sudden drops of temperature, sometimes of 30° or 40° or more in a few hours. The total annual rainfall averages from 40 to 45 inches over the southern part of the state, and it diminishes to 30 or 35 inches in the northwestern

part. However, it is often too unevenly distributed throughout the season to be of the greatest value to plant life. Most of it falls during the spring and early summer months, and there is sometimes a short rainy season in September or October; but protracted droughts, that often occur in the late summer and sometimes earlier, have a destructive or limiting effect upon many plants. And this is one of the causes for the absence of some species found in similar or more northern latitudes nearer to the coast or where more equable conditions prevail.

The direction of the winds is quite variable. In the spring and summer the prevailing direction is from the south and west, and in the autumn or winter it is often from the north or northwest. Although the severe winter storms come from these directions, the west and northwest winds of summer are often hot and dry and at other times storm-laden, while those from the south, which originate in the Gulf-Caribbean cyclone center, because of the distance and the altitude at which they travel, are usually cool and refreshing. The east winds of spring and early summer are frequently chilly and damp. In the spring and fall months the winds are often strong and blow steadily, sometimes for several days.

The winds influence the flora in several ways. As carriers of moisture or as agents in its evaporation, their effects are most important. The strong dry winds are at least one of the factors that have prevented the spread of forests and have kept the western plains and prairies as open grass lands. They are also an important agency in the transportation of seeds, and as an erosive force and as carriers of soil, dust, and sand, their effect, though not so conspicuous as in drier or more sandy regions, is by no means negligible. The generally small size and stocky character of the trees on open uplands is at least in part due to the strong winds.

The winter and early spring blizzards are generally accompanied by snow or sleet. The amount of snowfall varies greatly in different years. Some winters pass with only a few light snows, aggregating not more than two or three inches in thickness, while at rare intervals there may be a season in which there are repeated falls, and in small areas in more

northern parts a maximum of two or three feet on the level is sometimes formed. Memory of such exceptional seasons gives rise to the popular belief in a changing climate and to the tradition of the "old-fashioned" winters. Snows generally melt rapidly, but when they remain on the ground for some time they have a favorable influence upon vegetation, especially upon grasses and herbaceous plants. One of the most unfavorable climatic influences upon the flora in Missouri is the comparatively late dates at which killing frosts occur. Sometimes these come as late as the first week in May, and their effect then upon tender plants is most disastrous, often destroying the fruit or the entire plant for the season and in some cases killing them outright. This has probably been one of the most effective barriers to the northward spread of many tender or less hardy species.

The influence of climate upon the vegetation is very great, and climatic conditions operating in the past have doubtless been one of the principal factors in determining the present composition of our flora. Rich and varied as the flora of Missouri is, its diversity is due largely to other causes, such as the variety of soils, drainage, exposures, or protection afforded in different localities. For it is the extremes of moisture and temperature and not the averages that affect tender plants and work destruction upon them, and the temperatures occasionally recorded in Missouri winters are lower than those on the Atlantic coast far up into New England. The long severe droughts also prevent the spread of many mesophytic or hydrophytic species, limiting them to restricted areas or entirely excluding them from the region. Also the torrential rains and resulting floods in the stream valleys cause rapid erosion on steep slopes and prevent the accumulation of soil in rocky areas, as well as submerging large tracts of lowlands for considerable periods.

The following tables showing the average and the maximum and minimum temperature and rainfall by months, taken from the records of the United States Weather Bureau, will illustrate some of the extremes of climate in Missouri.

CLIMATE OF COLUMBIA, BOONE COUNTY, MISSOURI
(41 YEARS' RECORD)*

Elevation above sea level 784 feet.

MONTH	Mean temp. F. ^o	Mean max. F. ^o	Mean min. F. ^o	Mean rainfall inches	Average snowfall inches	Prevailing winds from
December	33	42	24	1.86	3.8	SW
January	29	39	20	1.92	5.3	S
February	32	41	22	2.04	6.0	NW
Winter	31	41	22	5.82	15.1	SW
March	43	54	33	2.94	3.7	S
April	55	65	44	3.77	0.5	S
May	64	75	53	4.46	T	S
Spring	54	65	43	11.17	4.2	S
June	73	83	62	4.76	0	S
July	77	88	66	3.49	0	S
August	76	87	65	3.60	0	S
Summer	75	86	64	11.85	0	S
September	68	80	58	4.35	0	SE
October	57	69	46	2.61	0.1	S
November	43	54	34	2.20	1.0	S
Autumn	56	68	46	9.16	1.1	S
YEAR	54	65	44	38.00	20.4	S

Highest temperature in 41 years, 111; lowest in 41 years, -26.

Average date last killing frost in spring, April 13.

Average date first killing frost in autumn, October 18.

Latest date killing frost in spring, May 9.

Earliest killing frost in autumn, September 18.

Average length growing season (K-frost to K-frost), 188 days.

Average annual number of days with 0.01 inch rain or more, 113.

Average number days 0.01 inch or more rain, April to September, 64.

The wettest year of record, 1892, with 54.62 inches.

The driest year of record 1901, with 21.35 inches.

The wettest single month, June, 1928, with 14.86 inches.

The driest single month, August, 1909, with 0.06 inch.

Average wind velocity, January 9 miles; February 10 miles; March 10 miles;

April 10 miles; May 8 miles; June 7 miles; July 7 miles; August 7 miles;

September 7 miles; October 8 miles; November 9 miles; December 9 miles.

Annual 8.

Wind velocities of 32 miles per hour or more, about 2 a year.

Wind velocities of 47 miles per hour or over, about 1 in 10 years.

Highest velocity ever recorded for a period of 5 minutes, 50 miles. Extreme velocity for one minute, 57 miles per hour.

The greatest known depth frost penetrated the ground, 36 inches.

Authority for ground frost penetration city engineers, grave diggers, and telephone-hole diggers.

* Furnished by the United States Weather Bureau Office.

GEOLOGY AND TOPOGRAPHY

Since plants grow in and are entirely dependent upon the soils, it is important to consider them and the rock formations from which they are derived in a general study of the flora. Moreover, clues to many perplexing facts in regard to the present distribution of native plants can often be found only in the past geological history of the region as well as in a study of its present topography and ecology.

All of the state of Missouri, with the exception of the Southeastern lowlands, has been above sea level since late Paleozoic time. Parts of the Ozark region are amongst the oldest lands on the continent, the Archaean and Algonkian rocks of the Iron Mountain sub-region having been a part of the original land axis of North America. The Iron and St. Francois Mountains in the southeastern part of the state are remnants of an old system, the peaks of which doubtless once stood much higher than they do at present, and the granitic and porphyritic rocks of which they are composed have during ages of erosion furnished material for the formation of the sedimentary beds which were later laid down in the seas about their bases. They may at one time have been entirely submerged and buried by sediments from higher land areas, and they are now in the process of being excavated by erosion. About this nucleus, beds of sandstones, limestones, and dolomites, and less generally of shales and conglomerates, were being formed in concentric bands and in overlapping layers down to the close of the Carboniferous or the beginning of the Permian period, when the whole region was gradually uplifted above sea level.

Although no traces of them now remain, we can safely assume that the earliest forms of land plants once occupied this region, and that the whole long pageant of the development of plant life has passed in review here. The luxuriant fern forests of the Coal period flourished in the lowlands and marshes bordering the seas, as the abundant fossil relics found in many places bear witness, and as the higher classes of flowering plants appeared at least in the Cretaceous and succeeding ages they found in the Ozark region a land surface already old

and with a diversity of soils and ecological conditions suited to a varied flora. So our present flora has an ancient lineage, and there is reason to believe that many of the rarer plants found isolated in parts of the region may have survived from remote times.

During the Cambrian and Ordovician periods most of the present area of Missouri was covered by seas of varying depths. Thick beds of magnesian limestone or dolomite were deposited in the deep seas and sandstones nearer the shores. These deposits now lie deeply buried under later strata over most of the state, but they come to the surface over much of the Ozark region. Narrow belts of Silurian and Devonian limestones and shales are found along the eastern and northeastern sides of the present Ozark plateau, and more locally to the west and southwest, but most of the region seems to have been a land surface during those times. Stratified rocks of the Mississippian series, mostly pure limestones with interbedded chert and some more local beds of sandstone and shale, also encircle the Ozark plateau in a wider belt, coming to the surface over considerable areas in northeastern Missouri and in the west-central and southwestern parts of the state. Farther north, as well as west, and eastward beyond the borders of the state, they are buried beneath the sandstones and shales of the Pennsylvanian series. The shallow seas of the late Carboniferous period probably at one time covered nearly the entire state, as outlying areas of the rock deposits are found in many parts of the Ozark region, though in most places they have been removed by subsequent erosion. But over most of northern Missouri and south of the Missouri River on the western side of the state they come to the surface, except where buried under transported glacial material. Limestones formed in the more open seas at this time are also found in some places.

Nearly all of Missouri was a land surface undergoing erosion through the middle ages (Mesozoic) of geologic time, although there were probably considerable changes of level during the late Cretaceous, when igneous rocks were being thrust up in the Ouachita Mountain region of central Arkansas. At that

time the waters of the Gulf of Mexico came up to the southeastern border of the present Ozark region, and deposits made along the shores come to the surface in Scott and Stoddard counties in parts of Crowley's Ridge in the southeastern Missouri lowlands.² The upward movement of land surfaces at that time probably affected the drainage of the entire region and changed the directions of many streams. The upper Mississippi River may not have assumed its present course until about this time.³

The Mississippi Embayment of southeastern Missouri remained until a much later time, at least until the last elevation of the Ozark region, towards the close of the Tertiary period. The Southeastern lowlands now occupy the area of this old embayment. Prior to this time the surface of the Ozark uplands was being worn down until most of the region was reduced to a low, comparatively level plain, with sluggish streams and probably large areas of swamps, covered with a forest in many respects similar to that which now occupies the Southeastern lowlands. The probably slow and long-continued movement that again elevated the region resulted in a rejuvenation of the streams, which, because of the steep grades, began cutting new valleys and producing the rough topography that is now found especially along the steep slopes of the dome.

The cold climate and the several southward movements of the polar ice sheets during the Pleistocene period must have profoundly affected the flora of the entire northern and central United States. In Missouri during the Kansan epoch, one of the earliest advances of the ice, the ice sheet covered a large part of what is now the Prairie region north of the Missouri River, bringing down from the north great quantities of gravel and boulders, mostly of igneous and metamorphic rocks such as are not found in place nearer than Minnesota, the Dakotas, and Canada. As the ice melted and retreated the region it had

² Matthes, F. E. Cretaceous sediments in Crowley's Ridge, southeastern Missouri. Bull. Am. Assoc. Petrol. Geol. 17: 1003-1009. 1933; also Farrar, W. The geology and bleaching clays of southeast Missouri. Part I. The Cretaceous and Tertiary Geology. Mo. Geol. Surv. Bien. Rept. Appendix I. pp. 7-20. 1935.

³ Marbut, C. F., Physical features of Missouri. Mo. Geol. Surv. 10: 76. 1896.

covered was left with these, as well as a deep mantle of soil and clay, the result of the grinding and pulverizing of the rocks over which it had passed. Later, much of this material was taken up and redistributed over wider areas by the waters of the flooded streams. The ice sheet may have come as far south at this time as Clinton, Carroll, and Randolph counties.⁴ In the later Iowan epoch the ice seems to have again advanced to just within the northern borders of Missouri.

The thick deposits of loess, which are so conspicuous above the bluffs of the Missouri River from Atchison County to below Kansas City and which also occur along the Mississippi River on the eastern side, were probably deposited in shallow lakes or sluggish streams during this time of the retreating ice.

The most recent effects of geological forces in the state can be seen in the alluvial valleys of streams, in eroded surfaces and ravines that result from every flood, and in the cumulative effects of frost, wind, and rain, all of which go on every year, modifying the surface of the land and influencing the vegetation.

The present topography and surface geology of the state is the result of this long geologic history, every cycle and change of which has had its influence in determining the present character and distribution of the flora.

Some plants are restricted to special kinds of soil and others show a preference for certain ones. And since most of the soils in Missouri, except over the glaciated areas of the Prairie region and in the alluvial valleys of streams, are residual and have resulted from the breaking down of the local rocks, the relation between the underlying geological formation and the plants that grow above them is often very close.

Plants that grow on alkaline soils, or those containing a large percentage of lime, are called calciphiles. Soils and plants of this class are usually found in limestone areas. Acid or sub-acid soils, deficient in lime, are generally found in areas where

⁴Todd, J. E., Formation of the quaternary deposits of Missouri. Mo. Geol. Surv. 10: 213. 1896.

sandstones, cherts, and other siliceous or granitic rocks come to the surface. But acidity may result locally from other causes, and in the Ozark region this type of soil is often due to the leaching out of the lime and the accumulations of chert that was originally present as lenses or nodules in the limestone strata, or to the concentration of magnesium in dolomite areas. Plants that grow on acid soils are called oxylophiles, but most plants are not absolutely restricted to one type of soil, though showing a more or less decided preference for it. Another group of plants, including by far the greatest number, are found on soils of not too pronounced a character, but which may be either neutral, sub-acid, or sub-alkaline. Such plants are described as circumneutral. Others, such as many of the common weeds, grow on almost any sort of soil, where other conditions are not too unfavorable, and these are said to be indifferent.

THE FLORA

In its broadest sense the term flora embraces all forms of vegetation found within a region, including, besides the higher or flowering plants, mosses, lichens, fungi, algae, and other less conspicuous and microscopic groups. But it is generally used in a much more restricted way, and in speaking of the flora most writers and students have in mind only the more conspicuous groups of the phanerogams and vascular cryptogams, and it is in this sense that the term is used in this catalogue.

The character of the vegetation in any region is determined by the physical conditions, and the requirements of different sorts of plants vary widely. Some grow directly in water or require a constant and abundant water supply; others grow in drier situations or can live only in places that are usually very dry and well drained. Some require shade or the support or protection of other species; and some thrive only with abundant light and sunshine. Many forms of vegetation are very sensitive to frost and cold and are limited to tropical or subtropical regions; while others, through long periods of dormancy, have become inured to severe cold. Within every region

of any considerable extent a wide variation in many or all of these conditions is found, giving opportunity for plants of different requirements within certain limits to find a place in the flora. But the limits of a region and its flora are defined more or less sharply by physical barriers or by differences in ecologic conditions. Climatic zones of temperature or rainfall, geographic barriers, such as oceans, high mountain ranges, deserts, or wide river valleys, or sudden changes in the character of the soil or drainage, are amongst the things that often determine the boundaries of floras. Some of these barriers, however, are not absolute. The effect of climate asserts itself only gradually and in different degrees upon different sorts of plants, so that the boundaries between different floras or subdivisions of floras are generally not sharp and clear, but there is a border line along which one merges into another. This is particularly true when speaking of the flora of a limited area.

In considering the flora of Missouri, it should be remembered that it is only a part of the flora of eastern and middle North America, and that while several different plant regions can be recognized within the state, the boundaries between none of them are absolute, and that the range of many species extends from one region to adjoining ones and often throughout the entire state. But at the same time each of the principal plant regions, and to a less extent each subdivision of them, is distinguished by the presence of a number of species restricted to it, and by certain characteristics in the type and composition of the flora.

PLANT REGIONS

The principal plant regions of the state, corresponding in general to the physiographic regions previously described, are the Southeastern lowlands, the Ozark region, and the Prairie region, but the boundaries of the physiographic and phytogeographic regions are not quite identical. In places the flora of the lowlands pushes for short distances up the river valleys into the Ozark plateau, and the flora of the latter extends northward beyond the plateau and is the dominant element along the

bluffs north of the Missouri River and on the hills bordering that stream as far west as the mouth of the Chariton. On the western side it also occupies the river bluffs and rocky uplands in what is mainly the Prairie region, while, on the other hand, wedge-like extensions of the prairie flora penetrate the Ozark region, and colonies of prairie plants occupy glades and openings in the forest.

Lists of characteristic plants are given after the description of each of the plant regions. These are intended to include such species as are wholly or mainly confined to the region, and many of the most common and conspicuous plants may not be mentioned because of the fact that they are equally common in other regions.

SOUTHEASTERN LOWLANDS REGION

In the Southeastern lowlands there are no outcrops of solid rocks except a few outlying remnants along the border of the Ozarks. Much of the soil has been transported as alluvium by streams, and in places it has been enriched by humus from the decay of the forests. In other parts it has become acid through leaching, lack of drainage, or the influence of the decaying vegetation. On some of the slight elevations the soil is sandy, and this may have been washed down locally into depressions, forming sandy bogs or bayous, with an acid-loving type of vegetation. Most of the soils in this region are either sub-acid or neutral, with areas of a definitely acid type and others that are mildly alkaline. The drainage is generally poor, except on Crowley's Ridge, and although there are many plants here not found in other parts of the state, the flora is rather uniform over most of the region. The characteristic and dominant plants are those of the Gulf Coastal Plain, and the region as a whole is Lower Austral, and with the southern phase of the Carolinian flora.

Nearly all of the region was originally forested with a dense and luxuriant growth of deciduous trees. In the swampy or more frequently inundated areas, bald cypress, tupelo (*Nyssa aquatica*), pumpkin ash (*Fraxinus profunda*), red maple, swamp hickory, water locust, swamp cottonwood (*Populus*

heterophylla), water elm (*Planera aquatica*), overcup oak, itea, button-bush, and a few other trees and shrubs are dominant.

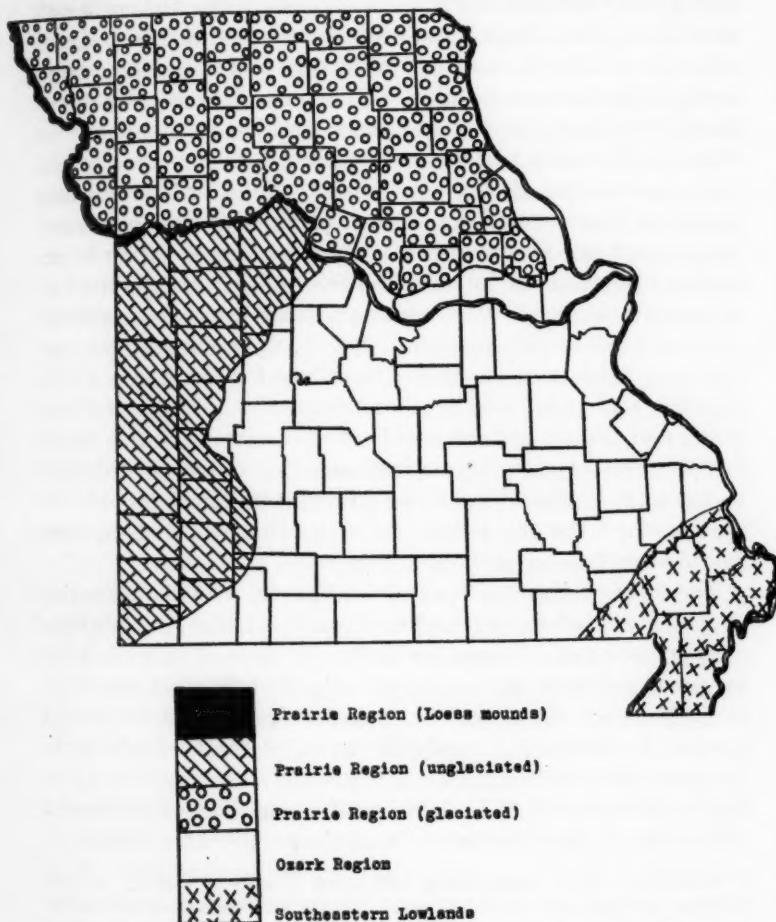


Fig. 2. Map of Missouri, showing the plant regions.

There are comparatively few herbaceous plants except aquatics, although coarse sedges and grasses and some others grow along the margins of the sloughs and swamps. On the

slightly higher ground above the flood stage, or where it is seldom inundated, the flora is much richer in species. The forest here contains many sorts of oaks, white hickory, sweet gum, black gum, winged elm, white ash, flowering dogwood, and other trees, besides a variety of shrubs and vines and a large array of herbaceous plants. Yellow pine (*Pinus echinata*) is found rarely on the higher sandy ground, but there are no other conifers and seldom any ericaceous plants. Most of the forest species found on the drier parts of the lowlands are also found on Crowley's Ridge, and growing with them are many others that are practically restricted to this elevation in the region. Some of the latter are species of distinctly eastern or northeastern distribution which are near their western limits here, at least in this latitude. Beech, Spanish oak (*Quercus falcata*), tulip-tree, cucumber-tree, sweet gum, linden (*Tilia glabra*), and sugar maple are amongst the commonest forest trees, and the scarlet oak and beaked hazelnut are also rarely found. Geological evidence indicates that Crowley's Ridge lay to the east of the Mississippi River until comparatively recently, when the channel of the river changed, and the flora would seem to lend support to this.

The flora of the Southeastern lowlands, with the exception of the eastern element found on Crowley's Ridge, is probably a very ancient one. Except for the loss of some of its more tropical species, it may have changed only slightly since middle or early Tertiary time, when it extended far beyond its present limits. In Missouri it probably occupied the lowlands to the north and west before the elevation of the Ozark plateau, where traces of it are still to be found, and it may have covered most of the state before the incursion of the northern ice sheet.⁵

⁵ Evidence is rapidly accumulating that seems to make it necessary to revise the ideas previously held as to the intensity of the cold that accompanied the advance of the glaciers in the Quaternary era, and of its completely destructive effects upon the flora. It now seems more probable that fragments of the forest and associated herbaceous flora continued to flourish in parts of the generally glaciated regions, especially toward the southern limits of the ice, although doubtless losing many of the less hardy species. Similar conditions are found today in regions where glaciers are present and where a varied flora is sometimes found growing almost up to the edge of the ice.

Fossil remains of the bald cypress, which now reaches its northern limits here, have been found in Tertiary and Pleistocene deposits over a large part of North America, reaching as far north as the St. Lawrence valley. And other fossil as well as living plants prove the former wide extent of this southern flora. The physiography of the Ozark region and of regions surrounding it was at that time very different, and it has since also undergone great climatic changes in the course of which plants have invaded the region from different directions. But it is interesting to find that a number of species which are generally of coastal distribution and that are now mainly confined to the Southeastern lowlands in Missouri reappear in isolated stations far up the Mississippi River and sometimes in remote parts of the Ozark region. The most extensive colonies of such plants are along White River and its tributaries, and some species extend to the western boundaries of the state. As the White River country belongs to the Ozark region, of which it is a rather distinct subdivision, it will be described later, but a few examples of the extension of lowland species into other parts of the state may be mentioned here.

The green haw (*Crataegus viridis*) is a common species throughout the Coastal plain from Virginia and Florida to eastern Texas, and in Missouri it is abundant in wet woods in the Southeastern lowlands. But it also extends up the Mississippi and Missouri Rivers to Marion and Cole counties, and it is found in the valleys of some of the other larger streams across the southern part of the state, and northward again along the western side of the state to the Marais des Cygnes bottoms in Bates County. Although usually a species of low or swampy woods, it is found both in northeastern Missouri and in the southwestern part of the state, on high limestone hills where there is an abundant supply of seepage water along the ledges in rainy seasons. *Rhamnus caroliniana* and *Ilex decidua*, both of which have a general range similar to that of the green haw, also have much the same range as that species in Missouri, although the former does not extend quite so far north. And it is an interesting fact that all of them have

adapted themselves to the same unusual conditions in the limestone areas. *Forestiera acuminata* is another lowland species, although its general range is more southwestern, that in Missouri extends from the Southeastern lowlands up the Mississippi River to Pike County, and in isolated stations westward along White River and Spring River in Jasper County. *Quercus lyrata* and *Trachelospermum difforme*, typical Coastal Plain species, besides being common in the Southeastern lowlands, are found locally in St. Louis County. *Ampelopsis arborea* extends north to Jefferson and St. Louis counties, and *Gleditsia aquatica* is also found in the former county. *Hottonia inflata* has been collected in St. Louis County, and *Mitchella repens* as far north as Lincoln County. The pubescent form of the sugar maple, *Acer saccharum* var. *Schneckii*, which has a well-defined range in the lowlands of the central Mississippi Valley, including southeastern Missouri, has been found in an isolated locality in Benton County. Other southern plants that apparently skip across the state from the Southeastern lowlands to the drainage basin of Spring River in southwestern Missouri are *Paspalum floridanum*, *Scirpus carinatus*, *Agalinis viridis*, *Mecardonia acuminata*, and *Pluchea petiolata*.

The unusual distribution of some of these plants may possibly be accounted for on the theory of recent extensions of range, but in the case of some of those which are found over such wide areas, as well as of others found in the White River sub-region, it seems more reasonable to believe that they are survivals from a former more general distribution in the region and examples of successful adaptation to changing conditions.

The Southeastern lowlands is the most distinct plant region in the state and its flora is the most uniform. But in recent years lumbering, drainage, and cultivation have worked widespread destruction upon the native flora, and it is rapidly losing its distinctive character, while many of the plant species seem doomed to early destruction here.

CHARACTERISTIC PLANTS OF THE SOUTHEASTERN LOWLANDS
REGION

<i>Woodwardia areolata</i>	<i>Wisteria macrostachya</i>
<i>Botrychium dissectum</i> var. <i>tenuifolium</i>	<i>Sesbania macrocarpa</i>
<i>Taxodium distichum</i>	<i>Amorphophallus</i> <i>orcoecolanata</i>
<i>Sagittaria platyphylla</i>	<i>Croton Engelmanni</i>
<i>Echinodorus radicans</i>	<i>Crotonopis linearis</i>
<i>Panicum hians</i>	<i>Ilex opaca</i>
<i>Arundinaria gigantea</i>	<i>Evonymus americana</i>
<i>Cyperus Gatesii</i>	<i>Acer floridanum</i>
<i>Cyperus compressus</i>	<i>Acer rubrum</i> var. <i>Drummondii</i>
<i>Cyperus dipsaciiformis</i>	<i>Aesculus discolor</i> var. <i>mollis</i>
<i>Rynchospora macrostachya</i>	<i>Sida Elliottii</i>
<i>Carex cherokeensis</i>	<i>Vitis rotundifolia</i>
<i>Carex Joorii</i>	<i>Vitis palmata</i>
<i>Carex ozylepis</i>	<i>Hypericum petiolatum</i>
<i>Carex louisianica</i>	<i>Hypericum virginianum</i>
<i>Wolfia papulifera</i>	<i>Viola lanceolata</i>
<i>Wolfella floridana</i>	<i>Rheizia mariana</i>
<i>Smilax glauca</i> var. <i>leurophylla</i>	<i>Jussiaea decurrens</i>
<i>Smilax rotundifolia</i> var. <i>quadrangularis</i>	<i>Ludwigia glandulosa</i>
<i>Hymenocallis occidentalis</i>	<i>Aralia spinosa</i>
<i>Iris fulva</i>	<i>Eryngium prostratum</i>
<i>Thalia dealbata</i>	<i>Cynosciadum digitatum</i>
<i>Populus heterophylla</i>	<i>Steironema radicans</i>
<i>Leitneria floridana</i>	<i>Cornus femina</i>
<i>Carya aquatica</i>	<i>Nyssa aquatica</i>
<i>Quercus Prinus</i>	<i>Bumelia lycioides</i>
<i>Quercus lyrata</i>	<i>Styrax americanus</i>
<i>Quercus nigra</i>	<i>Fraxinus profunda</i>
<i>Quercus Phellos</i>	<i>Fraxinus profunda</i> var. <i>Ashei</i>
<i>Quercus Nuttallii</i>	<i>Polypteron procumbens</i>
<i>Quercus falcata</i>	<i>Traehelospermum difforme</i>
<i>Quercus falcata</i> var. <i>pagodaefolia</i>	<i>Asclepias perennis</i>
<i>Planera aquatica</i>	<i>Asclepias variegata</i>
<i>Phoradendron flavescens</i>	<i>Hydrolea ovata</i>
<i>Polygonum densiflorum</i>	<i>Hydrolea affinis</i>
<i>Brunnichia cirrhosa</i>	<i>Lippia nodiflora</i>
<i>Cabomba caroliniana</i>	<i>Agalinis heterophylla</i>
<i>Ranunculus pusillus</i>	<i>Veronica serpyllifolia</i>
<i>Itea virginica</i>	<i>Bignonia capreolata</i>
<i>Liquidambar Styraciflua</i>	<i>Dianthera ovata</i>
<i>Crataegus Marshallii</i>	<i>Diodia virginiana</i>
<i>Rosa palustris</i>	<i>Cephalanthus occidentalis</i> var. <i>pubescens</i>
<i>Gleditsia aquatica</i>	<i>Oldenlandia uniflora</i>
<i>Cassia Tora</i>	<i>Cayaponia grandifolia</i>
<i>Cassia occidentalis</i>	<i>Lobelia puberula</i>

<i>Mikania scandens</i>	<i>Spilanthes americana</i> var. <i>repens</i>
<i>Eupatorium incarnatum</i>	<i>Gaillardia lutea</i>
<i>Eupatorium cuneifolium</i> var. <i>serratum</i>	<i>Helianthus angustifolius</i>
<i>Solidago suaveolens</i>	<i>Pluchea foetida</i>
<i>Solidago leptophala</i>	

CHARACTERISTIC PLANTS OF CROWLEY'S RIDGE IN
SOUTHEASTERN LOWLANDS*

<i>Erianthus strictus</i>	<i>Malus ioensis</i> var. <i>spinosa</i>
<i>Carex nigro-marginata</i>	<i>Nemophila microcalyx</i>
<i>Corylus cornuta</i>	<i>Hydrophyllum canadense</i>
<i>Fagus grandifolia</i>	<i>Blephilia ciliata</i>
<i>Fagus grandifolia</i> var. <i>caroliniana</i>	<i>Pycnanthemum incanum</i>
<i>Liriodendron Tulipifera</i>	<i>Fraxinus biltmoreana</i>
<i>Magnolia acuminata</i>	<i>Catalpa speciosa</i>
<i>Stylophorum diphyllum</i>	<i>Epifagus virginiana</i>
<i>Hydrastis canadensis</i>	<i>Mitchella repens</i>
<i>Actaea brachypoda</i>	<i>Helianthus microcephalus</i>
<i>Ribes Cynosbatii</i>	

* It will be noted that several species of this list are of wider range in other regions of the state, but they are practically restricted to this part of the lowlands.

THE OZARK REGION

Magnesian limestones and sandstones are the surface rocks over a large part of the Ozark region. The strata are usually horizontal or only slightly tilted, although in places there are local faults and disturbances. Chert, which is associated with the magnesian limestone in many places, often covers the uplands as a residual deposit after the less resistant limestone has been removed by erosion or solution. The magnesian limestone or dolomite produces an alkaline soil except where an unusual amount of magnesium is present or where the lime has been leached out on exposed slopes. In such places, as well as on the cherty uplands, the soil may be more or less acid.

The sandstones, of which the Roubidoux and St. Peter are the most important, outcrop along bluffs and ledges and locally over more level areas. They are composed of rather pure quartz and weather into distinctly acid soils, on which a number of characteristic oxylophytes are found.

The granites, syenites, and other igneous rocks of the Iron

Mountain sub-region also produce acid soils, but on account of the hardness of the rocks they are usually not so pronouncedly acid as are those of the sandstone areas. Other local areas of sandstone, with resulting acid soils, are found on the eastern side of the region, where the La Motte sandstone outcrops along the east side of the Iron Mountains and the Ste. Genevieve sandstone near the Mississippi River, and also towards the western side where there are numerous small areas of Pennsylvanian sandstone.

East of the Iron Mountains and along the Mississippi River local outcrops of Silurian, Devonian, and Lower Carboniferous age occur; and limestones of the Mississippian series also underlie considerable areas along the west side of the Ozark dome and extend beyond into the Prairie region. The limestones of this series are nearly pure calcium carbonate, and they usually produce fertile alkaline soils. But chert is also present in these beds, sometimes in large quantities, and acid or sub-acid soils are found locally on eroded ridges or slopes.

Shales are not abundant in most parts of the Ozark region, but they sometimes occur as separating layers between the strata of dolomite or limestone, and some thicker beds of Devonian or earliest Mississippian age outcrop locally on both sides of the plateau. The shales disintegrate into stiff soils or clays, which are generally acid, and on account of poor drainage, dripping banks or barrens, according to the location and slope, may be found in such places.

The flora of the Ozark region is more complex and varied than that of either of the other plant regions of the state, and several rather distinct sub-regions and plant colonies can be recognized in it. Considered as a botanical region, the boundaries both on the north and the west side extend somewhat beyond the Ozark plateau. The richness and diversity of the flora can be attributed to the present topography, drainage, and surface geology, and to the geologic history of the region.

The geographical position of the Ozark region on the American continent and its long geologic history both point to the probability of its having been a center of plant development

and distribution from early times, and it is extremely likely that some of the Ozarkian-Alleghenian species originated here and were dispersed from this center instead of the migration having been in the opposite direction, and the same may be true of some of the plants that now range widely to the southwest. Most of the trees that now form the Ozark forests seem to have invaded the region from the south in comparatively recent times, although their ancestors may have occupied it before they were driven out by the cold climate of the Pleistocene. A few woody species and many herbaceous ones now confined to the Ozark region or found also throughout a wider range only in special habitats often far apart may have first appeared here. As examples of such woody plants may be mentioned *Castanea ozarkensis*, *Hamamelis vernalis*, *Cladrastis lutea*, *Andrachne phyllanthoides*, and *Cotinus americanus*. It is interesting to note that nearly all of these belong to ancient genera common to both eastern Asia and North America.

The scattered distribution of many Ozark plants and the presence in the region of numerous relic species and colonies of plants, some of which are described later, can readily be understood when it is remembered that it has been a continuous land surface but with changing boundaries, elevations, climate, and other ecological conditions since late Paleozoic time, and it is not surprising that of the numerous waves of plant life that have passed over it during this time, some of the later ones at least should have left recognizable traces in the present flora.

Viewed broadly, the flora of the Ozark region is a forest flora, with the oak-hickory type of woods prevailing on the uplands, and with mixed or pure stands of yellow pine on some of the higher ridges. The hard-wood trees are usually of small or medium size and in places they are distinctly stunted. The forest in the alluvial valleys is much richer in species and the trees attain a considerably larger size. Only traces of the forest now remain in the valleys, as most of the land has been cleared for agricultural use. The forest, with its associated herbaceous plants, belongs to the great Carolinian flora, and

floristically it is intermediate between the austral and boreal phases, with a slight preponderance of southern species. The herbaceous plants of general distribution on the uplands are usually species that range from the Appalachian plateau to the grassy plains.

In the protection of bluffs along the larger streams and in the deep V-shaped valleys of the more rugged parts of the region, many plants of more northern range are found, and in various places, especially towards the western side of the plateau, there are numerous prairie openings and rocky glades and barrens in which plants of western or southwestern distribution are an important or dominant element. In a number of other local areas scattered throughout the region, generally where some unusual ecological condition prevails, small colonies or single species of plants are found that do not seem to belong to the general flora. The presence of some of these relic species is interesting and significant and may help to throw light on the geological and botanical history of the region.

Sink-hole ponds.—In portions of the Ozark region occur what are locally known as "sink-hole ponds." These are small, shallow, usually circular bodies of water which occupy natural depressions in the level upland plateau, and are best developed in certain of the flatter portions of the Ozark Plateau, particularly in Dent, Shannon, Texas, and Howell counties. The sink-holes become gradually built up with soil and humus until only a shallow depression remains which fills up with water that usually stands throughout the year. Floristically, these natural ponds are extremely interesting. They are generally surrounded by an upland oak-hickory forest of *Quercus palustris*, *Q. coccinea*, *Q. marilandica*, *Q. stellata* associated with *Carya cordiformis*, *C. alba*, *C. Buckleyi* var. *arkansana*, *C. ovalis* var. *obcordata*, and sometimes other trees. Bushes of *Cephalanthus occidentalis*, and *Hibiscus lasiocarpus* often occur, standing in one to three feet of water. The lower crotches of these shrubs may support large tussocks of *Carex decomposita*, among which or separately may be growing plants of *Viola lanceolata*, *Lycopus rubellus*, *Steironema lanceolatum*,

and *Galium Claytoni*. Aquatic species in great variety attain a luxuriant development in these ponds, among which are *Potamogeton pulcher* and *P. diversifolius*, *Glyceria acutiflora*, *Eleocharis acicularis*, *Spirodela polyrhiza*, *Heteranthera reniformis* and *H. limosa*, *Brasenia Schreberi*, *Ranunculus aquatilis* var. *capillaceus*, *R. pusillus*, *R. oblongifolius*, *Callitricha heterophylla*, *Scirpus americanus*, *Polygonum hydropiperoides*, *Myriophyllum heterophyllum*, *Sagittaria heterophylla* and *S. graminea*, and *Utricularia gibba*. Along the pond margins may occur *Gratiola lutea* and *G. virginiana*, *Acorus Calamus*, and other species. Certain ponds support distinct species. *Glyceria acutiflora* and *Carex decomposita* have been found only in such ponds, while *Viola lanceolata* is known from only two isolated stations in southeastern Missouri, one of which is in a sink-hole pond.

CHARACTERISTIC PLANTS OF GENERAL DISTRIBUTION IN THE
OZARK REGION

<i>Adiantum Capillus-Veneris</i>	<i>Crataegus collina</i>
<i>Polypodium polypodioides</i>	<i>Rosa subserrulata</i>
<i>Pteridium latiusculum</i>	<i>Lespedeza Stuevei</i>
<i>Asplenium Trichomanes</i>	<i>Lespedeza intermedia</i>
<i>Camptosorus rhizophyllus</i>	<i>Lespedeza hirta</i>
<i>Pinus echinata</i>	<i>Cassia nictitans</i>
<i>Aristida purpurascens</i>	<i>Baptisia vespertina</i>
<i>Panicum sphaerocephalon</i>	<i>Vicia caroliniana</i>
<i>Paspalum circulare</i>	<i>Clitoria mariana</i>
<i>Commelina virginica</i>	<i>Polygala verticillata</i> var. <i>ambigua</i>
<i>Quercus Shumardii</i> var. <i>Schneckii</i>	<i>Crotalaria elliptica</i>
<i>Quercus velutina</i> var. <i>missouriensis</i>	<i>Euphorbia commutata</i>
<i>Celtis laevigata</i> var. <i>texana</i>	<i>Vaccinium arboreum</i> var. <i>glaucescens</i>
<i>Celtis pumila</i> var. <i>georgiana</i>	<i>Vaccinium stamineum</i>
<i>Silene virginica</i>	<i>Vaccinium stamineum</i> var. <i>neglectum</i>
<i>Arenaria patula</i>	<i>Vaccinium vacillans</i> var. <i>orinatum</i>
<i>Ranunculus Harveyi</i>	<i>Ilex decidua</i>
<i>Aristolochia tomentosa</i>	<i>Rhamnus caroliniana</i>
<i>Hepatica americana</i>	<i>Vitis rupestris</i>
<i>Hamamelis vernalis</i>	<i>Ascyrum hypericoides</i>
<i>Cocculus carolinus</i>	<i>Passiflora lutea</i>
<i>Calycoarpum Lyoni</i>	<i>Angelica villosa</i>
<i>Hydrangea arborescens</i>	<i>Eulophus americanus</i>
<i>Aruncus sylvester</i>	<i>Ligusticum canadense</i>
<i>Gillenia stipulata</i>	<i>Nyssa sylvatica</i>

<i>Bumelia lanuginosa</i>	<i>Triosteum angustifolium</i>
<i>Steironema quadriflorum</i>	<i>Silphium Asteriscus</i>
<i>Amsinckia illustris</i>	<i>Parthenium hispidum</i>
<i>Vincentoxicum carolinense</i>	<i>Eupatorium coelestinum</i>
<i>Heliotropium tenellum</i>	<i>Brickellia grandiflora</i>
<i>Onosmodium subsetosum</i>	<i>Solidago Gattingeri</i>
<i>Sutellaria incana</i>	<i>Solidago hispida</i>
<i>Cunila origanoides</i>	<i>Solidago petiolaris</i> var. <i>Wardii</i>
<i>Monarda Bradburiana</i>	<i>Solidago arguta</i> var. <i>Boottii</i>
<i>Aureolaria pectinata</i>	<i>Aster patens</i>
<i>Aureolaria grandiflora</i> var. <i>cinerascens</i>	<i>Aster linariifolius</i>
<i>Agalinis Skinneriana</i>	<i>Aster ptarmicoides</i>
<i>Buchnera americana</i>	<i>Grindelia lanceolata</i>
<i>Ruellia pedunculata</i>	<i>Rudbeckia speciosa</i>
<i>Galium virginatum</i>	<i>Rudbeckia missouriensis</i>
<i>Galium arkansanum</i>	<i>Helianthus occidentalis</i>
<i>Spermacoce glabra</i>	<i>Coreopsis lanceolata</i>
<i>Houstonia longifolia</i>	<i>Coreopsis pubescens</i>
<i>Lonicera flava</i>	<i>Hieracium longipilum</i>
<i>Viburnum rufidulum</i>	

Most of the plants on the above list are well distributed throughout the region and a few of them are found occasionally beyond the limits of the Ozarks either in the Southeastern lowlands or in the Prairie region; others are comparatively rare and local but are not confined to any one of the well-defined subdivisions. Many of the commonest trees, shrubs, and herbaceous plants of the Ozark region are found throughout the state and for that reason are not on this list. These include amongst woody plants the red cedar, several species of willows, cottonwood, ironwood, hop hornbeam, most of the oaks and hickories, red and American elm, hackberry, wild cherry, plums, red haws, roses, sassafras, sumachs, maples, lindens, mulberry, persimmon, ash, and many others.

The Granitic-siliceous sub-region.—Although the Iron and St. Francois Mountains, with smaller outlying areas of igneous rocks, constitute one of the most distinct sub-divisions of the Ozark region, the boundaries of this floral sub-region must be drawn more widely to include the surrounding sandstone areas, with a belt extending northward to beyond the Missouri River. This may be called the Granitic-siliceous sub-region. While there are many other places in the Ozark region where chert or

sandstone on the surface has given an acid character to the soil, this is by far the largest area and the one in which the influence on the flora of this type of soil can best be seen. The sandstones, being more friable and therefore disintegrating more rapidly, as well as being more permeable to water, furnish more favorable habitats for many oxylophytes than the granitic or porphyritic areas, and most of the local and characteristic species are found on or near sandstone outcrops. A rather stunted forest growth covers most of the region, but there are numerous open places in glades or where the bare rock comes to the surface on slopes or where it stands out as domes and peaks in the igneous areas or as bluffs and ledges of sandstone. Pine is found on some of the granite or trachyte hills and on the outcrops of sandstone as far north as Franklin County. The red cedar (*Juniperus virginiana*) is sometimes found growing on igneous or siliceous rocks, but it is much more frequent in limestone areas. Some of the trees of the Southeastern lowlands, such as Spanish oak, willow oak, black gum, and sweet gum, as well as a few herbaceous species, are found in the extreme southern part, but the dominant and characteristic element over the whole area is Alleghenian-Ozarkian, and a number of eastern plants reach their western limit of distribution here. Ericaceous plants are more abundant than in any part of the state, and the rosy azalea (*Rhododendron nudiflorum* var. *roseum*) is a characteristic species in this sub-region.

PLANTS CHARACTERISTIC OF THE GRANITIC-SILICEOUS
SUB-DIVISION OF THE OZARK REGION

<i>Polypodium virginianum</i>	<i>Cyperus refractus</i>
<i>Asplenium pinnatifidum</i>	<i>Carex glaucodea</i>
<i>Athyrium acrostichoides</i>	<i>Carex hystricina</i>
<i>Thelypteris palustris</i> var. <i>pubescens</i>	<i>Allium cernuum</i>
<i>Thelypteris spinulosa</i>	<i>Malaxis unifolia</i>
<i>Thelypteris spinulosa</i> var. <i>intermedia</i>	<i>Habenaria peramoena</i>
<i>Dennstaedtia punctilobula</i>	<i>Salix sericea</i>
<i>Lycopodium lucidulum</i>	<i>Stellaria longifolia</i>
<i>Lycopodium lucidulum</i> var. <i>porophilum</i>	<i>Cerastium arvense</i> var. <i>oblongifolium</i>
<i>Lycopodium complanatum</i> var. <i>flabelli-forme</i>	<i>Mitella diphylla</i>
	<i>Saxifraga virginiensis</i>

<i>Saxifraga pensylvanica</i> var. <i>Forbesii</i>	<i>Phlox maculata</i>
<i>Hamamelis virginiana</i>	<i>Trichostema dichotomum</i>
<i>Crataegus uniflora</i>	<i>Salvia lyrata</i>
<i>Euphorbia obtusata</i>	<i>Collinsonia canadensis</i>
<i>Linum striatum</i>	<i>Pedicularis lanceolata</i>
<i>Ilex verticillata</i> var. <i>padifolia</i>	<i>Aureolaria corynoides</i>
<i>Frasera carolinensis</i>	<i>Houstonia patens</i>
<i>Rhododendron nudiflorum</i> var. <i>roseum</i>	<i>Houstonia caerulea</i>
<i>Rhexia virginica</i>	<i>Solidago suaveolens</i>
<i>Vincetoxicum obliquum</i>	<i>Cirsium virginianum</i>
<i>Phlox glaberrima</i>	

The White River sub-region and the bald knobs.—In describing the drainage and the geology of the state mention has already been made of White River, which makes an incursion into the counties of Barry, Stone, and Taney, along the southern border. Another loop of this river also nearly touches the state boundary a little farther east, near the southwest corner of Ozark County, and all of the south-flowing streams as far east as Howell County are tributary to it.

The extremely rugged country bordering this river and the lower courses of some of its tributaries comprises one of the most interesting and distinct subdivisions of the Ozark region. The river in its circuitous course has cut a deep narrow valley through the nearly horizontal strata of the Ordovician rocks. Thick solid beds of dolomite, separated by softer layers of shale, underlie most of the area. Hard nodules or masses of chert are sometimes present in the dolomite or are strewn in broken fragments over the surface of the hills, and ledges or local outcrops of quartzite and sandstone appear in some of the bluffs and hills. The river bluffs sometimes have a height of 200 or 300 feet, and the stream in places impinges against them or is separated only by a steep rocky talus. On the opposite side there may be a narrow alluvial or gravelly valley, usually subject to occasional overflows. The uplands a little back from the river are covered with the typical oak-hickory forest of the Ozarks, but along the river bluffs and in the deep cañons of the tributary streams, as well as on the bald knobs, many rare and characteristic plants are found. Along the talus or alluvial strip at the base of the bluff there is usually a dense

growth of trees. The wider parts of the valley that were originally wooded with large trees have nearly all been cleared for cultivation, but floods often work destruction on crops and strip off the surface soil. Where there are irregular ledges or clefts along the face of the cliffs many small trees and shrubs as well as herbaceous plants have found lodgment. The character of the vegetation depends upon the exposure. Where this is to the north or northeast a number of eastern Appalachian species are present. Amongst these are the butternut, northern red oak, cucumber-tree (*Magnolia acuminata*), yellowwood (*Cladrastis lutea*), sugar maple, nettle-tree (*Celtis occidentalis* var. *canina*), linden, staff-tree, and hydrangea, besides a luxuriant growth of ferns and other herbaceous plants. This association of plants is not, however, confined to this sub-region, but most of the species are also found in similar situations throughout the Ozarks, as will be shown later.

On south and west exposures the assemblage of plants is quite different, especially on the higher levels of the bluff. Fantastically twisted and gnarled junipers often crown the crest of the cliffs or cling precariously to crevices and ledges along its face. The red cedar (*Juniperus virginiana*) is the common species, but in Barry County as well as farther south in Arkansas, another species, called the white cedar by the local inhabitants on account of its thick white sap-wood, has been found. In open situations this tree has a different habit from that of the red cedar, with usually several boles or branches arising from the base instead of a single trunk. It is also distinguished by the usually single seed of the fruit and by the minutely serrulate margins of the leaves. This was named *Juniperus Ashei* Buchholz⁶ for the late Mr. W. W. Ashe of the U. S. Forest service, who first called attention to it, but a careful study of this species and a comparison with *Juniperus mexicana* Sprengel seem to indicate clearly that the two are identical and that the latter and older name should be applied to the white cedar of the Ozarks. The range of *Juniperus mexicana*, as given in the second edition of Sargent's 'Manual,'

⁶ Bot. Gaz. 90: 329. 1930.

is from Brazos County over the low limestone hills of western and southern Texas and southward into Mexico. It is very abundant on the limestone hills of the Edwards Plateau of central Texas and has recently been collected in the Arbuckle Mountains of Oklahoma, and as a number of other southwestern plants of similar range are associated with it in the White River sub-region there seems to be conclusive evidence that this flora at one time extended eastward to the Ozarks. In similar situations is also found the smoke-tree (*Cotinus americanus*), one of the rarest of American trees, and known only from a few other isolated localities in Alabama, Kentucky, Arkansas, Oklahoma, and Texas. It is most abundant and attains its largest size here along the White River bluffs, where it sometimes reaches a height of 35 or 40 feet and a trunk diameter of over a foot. The soap-berry (*Sapindus Drummondii*) and *Acacia angustissima* var. *hirta*, both species of the Southwest, are sometimes found in protected situations along the talus at the base of the bluff, and a succulent vine, *Cissus incisa*, has been found in Taney and McDonald counties, where it grows in hot dry exposures on the face of the bluff. The Missouri currant (*Ribes odoratum*) grows on ledges or in clefts along the bluffs, usually in partial shade. Characteristic also of such places, although of wider distribution in the state, are *Celtis pumila* var. *georgiana*, *Celtis laevigata* var. *texana*, *Bumelia lanuginosa*, *Fraxinus quadrangulata*, *Rhus canadensis* var. *serotina*, and *Parthenocissus quinquefolia*; and amongst herbaceous plants, selecting situations with various degrees of exposure, are *Woodsia obtusa*, *Pellaea glabella*, *Asplenium resiliens*, *Notholaena dealbata*, *Cheilanthes Feei*, and rarely *C. alabamensis*, *Elymus virginicus* var. *glabriflorus*, *Uniola latifolia*, *Commelina erecta* var. *crispa*, *Mentzelia oligosperma*, *Scutellaria ovata*, *Aster oblongifolius*, and *Solidago radula*. It is evident that this is mainly a southwestern flora, and it contrasts strikingly with that of the north exposures in which Alleghenian species predominate.

But even more interesting and distinct than the flora of the river bluffs is that of the bald knobs, as the eroded hills oc-

cupying the divides between the valleys are locally known. The peculiar topography found here is due to the long-continued action of erosional forces upon the alternating harder and softer horizontal strata, consisting of compact layers of fine, porous dolomite sometimes two or three feet in thickness, separated by bands of shale or clay. The thicker ledges stand out as low bluffs encircling the terraced hills, separated by wide slopes of rather sterile soil which becomes thoroughly saturated with seepage water during rainy times and extremely dry later in the season. As a result of this unequal distribution of available moisture and other factors only a few small trees and shrubs have, at least until recently, been able to establish themselves on the hills, which stand out in striking contrast to the heavily wooded valleys. In parts of the region some of the higher hills are capped with remnants of the purer Mississippian limestone, and in such places there is usually a much more abundant woody growth as well as many herbaceous species not found on the dolomite.

A few small trees and a variety of shrubs are usually found along the outstanding ledges. Amongst the commonest species are *Quercus Shumardii* var. *Schneckii*, *Q. Muhlenbergii*, *Ulmus alata*, *Celtis laevigata* var. *texana*, *Cercis canadensis*, *Rhamnus caroliniana*, *Ilex decidua*, *Diospyros virginiana*, *Bumelia lanuginosa*, *Fraxinus americana*, and the woody twiner *Berchemia scandens*. On some of the steeper slopes *Cotinus americanus* is also found, as well as various other trees and shrubs from the surrounding forests. A number of herbaceous plants are also confined to the narrow protected strip at the foot of the ledges, but most of these are not restricted to the bald knobs but belong to the flora of the surrounding woods. The flora on the open slopes is not rich in the number of species, as most of the plants of the region cannot endure the conditions, and as a result those that are able to do so have a practical monopoly of the area. Some of these are so abundant locally and are so conspicuous when in flower that at such times the hillsides present a most brilliant and striking spectacle. Almost the only trees which flourish on these open slopes are the junipers

(*Juniperus virginiana* and more locally *J. mexicana*, and sometimes the former is abundant). Such low shrubs as *Rosa carolina*, *Ceanothus ovatus* var. *pubescens*, *Acacia angustissima* var. *hirta*, *Andrachne phyllanthoides*, and a few others may be found here. The *Andrachne*, locally called buck-brush, is the most abundant and characteristic, and it is interesting both because of its range, which extends through northern and central Arkansas and eastern Oklahoma to central Texas, and because it is the only woody member of the large and generally southern family of the Euphorbiaceae to extend so far north.

The herbaceous plants of these slopes are mostly either short-lived annuals or deep-rooted perennials. Amongst the most abundant and conspicuous are the tall larkspur (*Delphinium Treleasei*), an endemic species, the large-flowered evening primrose (*Oenothera missouriensis*, locally known as glade lily), the pink- and the yellow-rayed cone-flowers (*Echinacea pallida* and *E. paradoxa*), blue wild indigo (*Baptisia vespertina*), black-eyed-Susan (*Rudbeckia missouriensis*), and *Hymenopappus scabiosaeus*. In certain places the purple-bracted horse-mint (*Monarda citriodora*) and the large-flowered purple beard-tongue (*Pentstemon Cobaea* var. *purpureus*) are abundant, and both are very showy when in bloom. A number of other less conspicuous plants are also characteristic of the bald knobs, and many of them are found nowhere else in the state while others occur elsewhere locally in glades. These are included in the fuller list given in a later paragraph. An examination of this list will show that here also, as on the bluffs with south and west exposures, the predominant element in the flora is of southwestern range, but that mingled with such plants are also a number of species that have come from the eastern Appalachian region. In both cases they seem to be relic colonies isolated on these bald knobs and to include many species that have survived through adaptation to the peculiar conditions found here, while they are unable to compete with the more widespread and aggressive plants making up the present flora of the general region. The significance of such colonies in indicating the climatic changes that have occurred

in the region and in contributing evidence on its geologic history is very great, and it is interesting to see whether we can determine through their aid something of the sequence of events that brought these successive invasions of plants from different directions into the region.

In describing the Southeastern lowlands it was stated that the flora now confined to that section in Missouri probably occupied much of the area of the Ozark region before its last elevation, and it was suggested that the distribution of several species now scattered throughout parts of the state beyond this region may be accounted for in this way. Some of the plants found in the White River country and on the bald knobs seem to furnish even more conclusive evidence of this.

The small form of the cane (*Arundinaria gigantea*), a typical species of the Coastal Plain from Maryland and Florida to eastern Texas and extending with other southern plants into the Mississippi Embayment area of southeastern Missouri, where it grows in low wet woods and alluvial banks of streams and bayous, is also found along White River and its tributaries in southwestern Missouri. In this part of its range it usually grows at the foot of rocky bluffs, often in widely separated stations and under very different conditions from those found in the lowlands. The southern red oak (*Quercus falcata*) is a tree of wide distribution in the Coastal Plain, and it is a characteristic species of the Southeastern lowlands, growing on the low elevations or in the better-drained bottom lands. It is also found along White River as far west as Barry County, Missouri, and Carroll County, Arkansas, where it has taken to the dry rocky hills. The fringe-tree (*Chionanthus virginica*) has a similar range, although more restricted in Missouri, where it is known locally in the lowlands of Mississippi County and in dry rocky uplands along the North Fork of White River, in Ozark County. Similarly, the herbaceous *Hymenopappus scabiosaeus*, a common plant of sandy areas in the Coastal Plain and found in the lowlands in Scott and Mississippi counties, reappears as a characteristic species of the glades and bald knobs along White River. Other southern plants with

a somewhat similar distribution in Missouri are the cucumber tree (*Magnolia acuminata*) and the leguminous *Rhynchosia latifolia*. The widely scattered distribution of *Forestiera acuminata*, *Rhamnus caroliniana*, and *Ilex decidua* has already been mentioned. All of them are found along White River, the first growing along the river margins or along sloughs and old channels, and the others along rocky ledges of the bald knobs.

Most remarkable of all, however, is the supple-jack or rattan vine (*Berchemia scandens*), both for its abundance and the way in which it has adapted itself to conditions entirely different from those of its usual habitats. In the Coastal Plain, where it is found from Virginia and Florida to eastern Texas and in the Southeastern lowlands of Missouri, it usually grows in swamps or low wet woods, and there it is a slender twiner, winding its tough stems about the trunks of shrubs and trees, which it sometimes ultimately strangles in its strong embrace. On the bald knobs, to which it is confined in the White River sub-region, it generally has a somewhat shrubby habit in the absence of any support, although the slender branches find support on the rocky ledges or on shrubs or small trees where they are at hand. It has also adapted itself to the irregular water supply afforded by the run-off from the hills after rains and the seepage from the rocky ledges that continues for some time afterwards. After this is exhausted the ground often becomes very dry and sterile for a considerable period. In this case, since the plant is not found at all in the alluvial valley or along the bluffs, it is scarcely reasonable to believe that it could have surmounted the present wide barrier of the rocky uplands between the old Mississippi Embayment area and the bald knobs or that it may have been introduced on these hills by some unaccountable circumstance, have survived in so unusual an environment, and have spread from one isolated glade to another. The only reasonable explanation of its presence here seems to be that it is a relic of former general distribution through the region prior to its last elevation, and that it is one of the species that, finding itself stranded in the grad-

ually rising Ozark region, succeeded in accommodating itself to the conditions that have slowly developed in the glades of the bald knobs, where competition with other species has not been too keen.

But before considering further the significance of these remarkable relic colonies it may be well to mention others of a somewhat similar character found in other parts of the Ozark region.

CHARACTERISTIC PLANTS OF THE BALD KNOBS, SOME OF WHICH
ARE ALSO FOUND IN ROCKY LIMESTONE OR DOLOMITE
GLADES IN OTHER PARTS OF THE REGION

<i>Ophioglossum Engelmanni</i>	<i>Evolvulus argenteus</i>
<i>Isoetes Butleri</i>	<i>Scutellaria Bushii</i>
<i>Juniperus virginiana</i>	<i>Satureja glabra</i>
<i>Juniperus mexicana</i>	<i>Monarda citriodora</i>
<i>Sporobolus neglectus</i>	<i>Amsonia ciliata</i> var. <i>tenuifolia</i>
<i>Carex Cravei</i>	<i>Pentstemon Cobaea</i> var. <i>purpureus</i>
<i>Carex Meadii</i>	<i>Heliotropium tenellum</i>
<i>Allium stellatum</i>	<i>Centaurium tezense</i>
<i>Nemastylis acuta</i>	<i>Hymenopappus scabiosaeus</i>
<i>Agave virginica</i>	<i>Echinacea paradoxa</i>
<i>Arenaria patula</i>	<i>Solidago Gattingeri</i>
<i>Talinum calycinum</i>	<i>Aster sericeus</i>
<i>Leavenworthia uniflora</i>	<i>Aster oblongifolius</i>
<i>Delphinium Treleasei</i>	<i>Aster oblongifolius</i> var. <i>rigidulus</i>
<i>Acacia angustissima</i> var. <i>hirta</i>	<i>Liatris cylindracea</i>
<i>Andrachne phyllanthoides</i>	<i>Marshallia obovata</i> var. <i>platyphylla</i>
<i>Berchemia scandens</i>	<i>Palafoxia callosa</i>
<i>Hypericum pseudomaculatum</i>	<i>Rudbeckia missouriensis</i>
<i>Oenothera missouriensis</i>	<i>Coreopsis lanceolata</i> var. <i>villosa</i>
<i>Stenosiphon linifolius</i>	

Glades and barrens of the Ozark region.—Rocky glades and open hillsides upon which ledges of rock come to the surface are found scattered throughout the Ozark region, and many characteristic plants, some of which are remote from the main area of their range, are found in such places. A considerable number of the species found on the bald knobs also grow in some of the rocky glades. Some of the characteristic plants are common to most of the glades, while others are restricted to a few localities or to a single station.

The term glade is used here for small open areas in the forest where rocks outcropping on the surface prevent the encroachment of most trees and shrubs. The name barren has also sometimes been given to such areas, but it should perhaps be restricted to larger areas or to those with a different type of soil and ecology, and in the Ozark region it is used colloquially for the larger prairie openings which properly are extensions of the Prairie region.

Glades are most abundant in limestone and dolomite areas, but they are also frequently found on sandstone outcrops or on those of igneous rocks in the Iron Mountain sub-region, and in southwestern Missouri on exposures of chert. The type of vegetation differs somewhat with the nature of the rocky outcrop. *Selaginella rupestris*, *Cheilanthes lanosa*, *Crotonopsis elliptica*, *Hypericum gentianoides*, and *Trichostema dichotomum* are characteristic plants of the igneous or siliceous rocky barrens, and other species of *Hypericum* and shrubby species of *Vaccinium* are usually also present.

The chert glades of southwestern Missouri are so distinct in their flora from any other part of the Prairie region that they should be treated separately. They are found in the valleys of Turkey Creek and Shoal Creek, in Jasper and Newton counties, and lie beyond the borders of the Ozark plateau. Solid beds of the Grand Falls Chert of the Mississippian series come to the surface in several places along the borders of streams, and in the depressions of the irregular hummocks there is an accumulation of soil which is generally acid but enriched with alluvium. As the rock is impermeable except where fractured, water also fills the depressions after rains and often remains there until evaporated by the sun. This combination has produced unusual ecological conditions, and a number of plants are found here that are known nowhere else in the state, and others that are known only here and in the trachyte or granite glades of the Iron Mountain sub-region. Most of the characteristic species are of southern or southwestern distribution.

CHARACTERISTIC PLANTS OF THE CHERT GLADES

<i>Cheilanthes lanosa</i>	<i>Saxifraga texana</i>
<i>Selaginella rupestris</i>	<i>Lathyrus pusillus</i>
<i>Isoetes melanopoda</i>	<i>Crotonopsis elliptica</i>
<i>Cyperus inflexus</i>	<i>Hypericum pseudomaculatum</i>
<i>Scirpus carinatus</i>	<i>Opuntia macrorhiza</i>
<i>Allium mutabile</i>	<i>Opuntia Rafinesquii</i>
<i>Rumex hastatulus</i>	<i>Chaeophyllum texanum</i>
<i>Polygonum tenue</i>	<i>Spermolepis echinata</i>
<i>Arenaria patula</i>	<i>Cynosciadium pinnatum</i>
<i>Talinum parviflorum</i>	<i>Phacelia hirsuta</i>
<i>Talinum calycinum</i>	<i>Ruellia caroliniensis</i> var. <i>parviflora</i>
<i>Portulaca parvula</i>	<i>Specularia leptocarpa</i>
<i>Portulaca retusa</i>	<i>Coreopsis lanceolata</i>
<i>Scleria aurea</i>	<i>Coreopsis tinctoria</i>
<i>Sedum Nuttallianum</i>	<i>Krigia occidentalis</i>

Limestone and dolomite glades.—The list of plants found in the limestone and dolomite glades is a long one, but many of the species are common also to the rocky woods or prairies. Some are found generally in the larger prairie openings or barrens of the Ozark region or on the uplands of the adjoining Prairie region, and a few of them also grow in glades of sandstone or igneous areas. The glades often merge gradually into the rocky woods, and shrubs or small trees may encroach and establish themselves in parts of the glade or about its margins. An invasion of herbaceous woodland species soon follows in such places. Many of the species of the following list are nearly always present in glades of this class, while other are comparatively rare and restricted.

CHARACTERISTIC PLANTS OF LIMESTONE AND DOLOMITE GLADES

<i>Ophioglossum Engelmanni</i>	<i>Agave virginica</i>
<i>Isoetes Butleri</i>	<i>Nemastylis acuta</i>
<i>Juniperus virginiana</i>	<i>Oxybaphus albidus</i>
<i>Sporobolus asper</i> var. <i>pilosus</i>	<i>Arenaria patula</i>
<i>Sporobolus ozarkanus</i>	<i>Portulaca parvula</i>
<i>Bouteloua curtipendula</i>	<i>Talinum calycinum</i>
<i>Carex Cravei</i>	<i>Clematis Fremontii</i>
<i>Carex Meadii</i>	<i>Sedum pulchellum</i>
<i>Allium mutabile</i>	<i>Delphinium Penardii</i>
<i>Allium stellatum</i>	<i>Delphinium azureum</i> var. <i>Nortonianum</i>
<i>Nothoscordum bivalve</i>	<i>Draba cuneifolia</i>
<i>Camassia hyacinthina</i>	<i>Erysimum asperum</i>

<i>Lesquerella gracilis</i>	<i>Polytaenia Nuttallii</i>
<i>Lesquerella angustifolia</i>	<i>Cosmecia daucifolia</i>
<i>Leavenworthia uniflora</i>	<i>Phacelia hirsuta</i>
<i>Baptisia vestita</i>	<i>Heliotropium tenellum</i>
<i>Psoralea esculenta</i>	<i>Onosmodium hispidissimum</i>
<i>Psoralea tenuiflora</i>	<i>Onosmodium subsetosum</i>
<i>Petalostemum purpureum</i>	<i>Dodecatheon Meadia</i>
<i>Petalostemum albidum</i>	<i>Asclepiodora viridis</i>
<i>Astragalus distortus</i>	<i>Acerates viridiflora</i>
<i>Astragalus mexicanus</i>	<i>Ianthus brachiatus</i>
<i>Euphorbia sygophylloides</i>	<i>Monarda citriodora</i>
<i>Tragia urticaefolia</i>	<i>Galium virginatum</i>
<i>Ehus canadensis</i> var. <i>serotina</i>	<i>Houstonia angustifolia</i>
<i>Rhamnus caroliniana</i>	<i>Echinacea pallida</i>
<i>Opuntia Rafinesquii</i>	<i>Solidago Gattingeri</i>
<i>Mentzelia oligosperma</i>	<i>Aster sericeus</i>
<i>Malvastrum angustum</i>	<i>Aster oblongifolius</i>
<i>Oenothera missouriensis</i>	<i>Aster ptarmicoides</i>
<i>Oenothera speciosa</i>	<i>Thelesperma trifidum</i>
<i>Chaerophyllum texanum</i>	<i>Silphium terebinthinaceum</i>

In the deep narrow valleys and along the bases of the high bluffs with a northern or eastern exposure, and especially in the rich woods formed by the talus, soil accumulations, and humus, many plants of northern and Appalachian range are found. A few of these were mentioned as growing in such situations along White River, and many of them extend throughout the Ozark region and sometimes beyond along the higher stream bluffs in the Prairie region, or they may grow in more open situations farther north.

CHARACTERISTIC PLANTS OF NORTH-FACING BLUFFS OF THE OZARK REGION

<i>Adiantum pedatum</i>	<i>Smilacina racemosa</i>
<i>Athyrium asplenoides</i>	<i>Polygonatum canaliculatum</i>
<i>Athyrium angustum</i> var. <i>rubellum</i>	<i>Erythronium americanum</i>
<i>Athyrium angustifolium</i>	<i>Erythronium albidum</i>
<i>Cystopteris bulbifera</i>	<i>Trillium sessile</i>
<i>Cystopteris fragilis</i>	<i>Trillium recurvatum</i>
<i>Brachelytrum erectum</i>	<i>Cypripedium parviflorum</i> and var. <i>pubescens</i>
<i>Carex Jamesii</i>	<i>Juglans cinerea</i>
<i>Carex laxiflora</i>	<i>Asarum canadense</i>
<i>Carex eburnea</i>	<i>Asarum canadense</i> var. <i>reflexum</i>
<i>Arisaema triphyllum</i>	<i>Thalictrum dioicum</i>
<i>Uvularia grandiflora</i>	

<i>Hepatica americana</i>	<i>Acer saccharum</i> var. <i>glaucum</i>
<i>Aquilegia canadensis</i>	<i>Dicranum palustre</i>
<i>Isopyrum biternatum</i>	<i>Aralia racemosa</i>
<i>Actaea brachypoda</i>	<i>Brigelia bulbosa</i>
<i>Caulophyllum thalictroides</i>	<i>Osmorhiza Claytoni</i>
<i>Sanguinaria canadensis</i>	<i>Osmorhiza longistylis</i>
<i>Dicentra cucullaria</i>	<i>Cryptotaenia canadensis</i>
<i>Dicentra canadensis</i>	<i>Taenidia integriflora</i>
<i>Corydalis flavula</i>	<i>Thaspium barbinode</i>
<i>Hydrangea arborescens</i>	<i>Thaspium trifoliatum</i> var. <i>flavum</i>
<i>Ribes Cynosbati</i>	<i>Hybanthus concolor</i>
<i>Polygala Senega</i> var. <i>latifolia</i>	<i>Hydrophyllum appendiculatum</i>
<i>Erythronium</i> obovatum	<i>Viburnum molle</i>
<i>Tilia glabra</i>	<i>Solidago caesia</i>
<i>Tilia heterophylla</i> var. <i>Michauxii</i>	<i>Solidago latifolia</i>
<i>Staphylea trifolia</i>	<i>Eupatorium urticaefolium</i>
<i>Acer saccharum</i>	<i>Senecio obovatus</i> var. <i>rotundus</i>

Before summarizing this sketch of the Ozark flora, mention must be made of another interesting plant colony where a number of rare species are found, some of which are not known elsewhere in the state. Mr. B. F. Bush, while collecting in Shannon County many years ago, came upon a locality along Jacks Fork of Current River where high bluffs of magnesian limestone, in places capped by beds of Roubidoux sandstone border the stream. A most unusual assemblage of plants was found here, many of them growing on the dolomite, either at the base of the bluff or along ledges, and others growing on the sandstone either along the top of the bluff or along outcrops a little way back from the stream. Mr. Bush visited this locality a number of times, exploring it thoroughly and collecting and distributing many plants from it. Amongst species of special interest that have been found near Jam-up Bluff, as the high point along the river is known, are *Scirpus planifolius*, *Carex Careyana*, *C. leptalea*, *C. laxiculmis* var. *copulata*, *Zigadenus elegans*, *Cypripedium Reginae*, *Spiranthes lucida*, *Berberis canadensis*, *Potentilla canadensis* var. *vilosissima*, *Parnassia grandifolia*, *Hypericum gymnanthum*, *Galium boreale* var. *hyssopifolium*, *Campanula rotundifolia*, *Senecio obovatus* var. *umbratilis*, *Trautvetteria carolinensis*, *Artemisia campestris* var. *caudata*, *Solidago rugosa* var. *aspera*, and

S. juncea. Growing in the same locality or near by are the following plants, most of which, although known in other localities in the state, are found here and seem to be part of the association: *Asplenium cryptolepis*, *Veratrum Woodii*, *Cypripedium candidum*, *Ribes Cynosbati*, *Erythronium* *ovatum*, *Dirca palustris*, *Cornus alternifolia*, and *Solidago caesia*.

While collecting during 1934 and 1935 in Texas County, the junior author came upon a locality in a deep limestone cañon where a number of these rare species were growing under similar conditions, and the two localities are evidently closely associated phytogeographically. The range of most of these species (excluding those that are southern Appalachian) is in the glaciated areas in northern Missouri or farther north beyond the borders of the state, and their presence in the heart of the Ozark region far beyond the recognized limits of glaciation would clearly indicate a relic colony that has survived from the time when this northern flora extended much farther south than it does at present in Missouri. They have held out in peculiarly protected or favored spots after changing ecological conditions had brought about the general destruction or migration of the floras of which they were a part and had replaced them generally with others more adapted to the new conditions.

It has been pointed out that a number of species from the Coastal Plain flora, which in its full development is now found in Missouri only in the Southeastern lowlands, are isolated in the bald knobs of the White River sub-region and in other parts of the Ozarks; and these plants probably constitute one of the oldest recognizable elements in the present plant life of the region, harking back to conditions that prevailed before its last elevation in late Tertiary time. This does not of course necessarily mean that they have occupied continuously the exact locations where they are now found, but merely that they were never entirely exterminated in the region.

Many of the plants of general northeastern and Appalachian distribution now found in the deep cañons and along north-facing bluffs may also have persisted in the region since pre-

glacial times. For the possibility should not be overlooked that some of these species, as well as those of earlier and later periods, may have been developed in the Ozark region and have been dispersed from this center. And it is scarcely likely that extensive immigration could have taken place from the east after the development of the wide flood plains of the Mississippi River, which offers an effective barrier to many upland species.

Finally, the mainly xerophytic plants of southwestern range, which are now found in the glades, on the bald knobs, and along the south-facing bluffs of White River and other streams, and which are the best preserved and most obvious relic colonies in the region, are probably of still more recent origin, and are remnants of a prairie or plains flora that penetrated into central North America during a period of increasing aridity some time subsequent to the final retreat of the glaciers, perhaps within the last few millenia. Relics of this flora are still recognizable as far east as the cedar glades of middle Tennessee and in several adjoining states. It would seem, however, that the climate at this time, while greatly influencing and changing the character of the flora on the uplands, was not sufficiently arid to destroy or drive out all of the northern flora nor even all traces of the old Tertiary forest flora from the protecting valleys in the Ozark region. Conditions at the maximum of this cycle may perhaps have been comparable to those which prevail at present in the Edwards plateau of central Texas, where a number of the peculiar species of the Ozark glades and bald knobs are now found on the limestone hills, and relic colonies of eastern mesophytic species survive in the cañons.⁷

There is abundant evidence of various kinds that such a period of widespread aridity occurred about the time we have indicated, both in America and in the Old World. That it profoundly affected the flora and through it, as well as in other ways, the development and culture of man, groping his way

⁷ See Palmer, E. J. Canyon flora of the Edwards Plateau of Texas. *Jour. Arnold Arb.* 1: 233. 1920.

up through savagery or the first stages of civilization, is probable. And so botanical evidence may aid in clarifying or confirming the theories of the climatologists and geologists in working out the story of the past.

THE PRAIRIE REGION

The flora of the Ozark region and that of the Prairie region merge gradually into each other in many places, and the boundary between them is nowhere so clearly drawn as that between the Southeastern lowlands and the former. While the generally open treeless character of the uplands distinguishes and gives name to the region, it is really one of transition from the eastern forest that has now reestablished itself over most of the Ozark plateau, and the western prairies. The alluvial valleys of the larger streams were all occupied by narrow strips of forest until largely cleared off since the settlement of the country. The forests are of similiar type to those along the Ozark streams, although a number of the southern species begin to disappear towards the north and a few northern ones to come in. As in the Ozark region, the larger valleys may have remained wooded through the period of more arid climate.

The Prairie region may be separated into two main divisions: the Glaciated and the Unglaciated sub-divisions. The first occupies most of the area north of the Missouri River, except a narrow strip along that stream and along the Mississippi River near their junetion, and it also includes small areas to the south of the Missouri, in St. Louis, Saline, Cooper, Lafayette, and Jackson counties. In the small unglaciated areas north of the Missouri River, the flora, as well as the topography along the river bluffs, has more in common with that of the Ozarks, and it has been considered as part of that region.

Stratified rocks of Silurian, Devonian, and Lower Carboniferous age underlie the glacial drift in several of the eastern counties. These earlier Paleozoic rocks are mostly limestones, sometimes carrying chert, and with more limited areas of shale and sandstone. Westward and throughout most of this sub-region the underlying deposits are the sandstones and shales

of the Pennsylvanian series, with local beds of limestone in a few places. Glacial drift, till, or loess covers most of the uplands, but the older stratified rocks come to the surface in places where the drift has been removed, and especially along bluffs of streams. Much of the material brought in by the glaciers has been redistributed both as alluvium in the valleys and gravel bars along the streams and as loess in several parts of the sub-region. As the flora found on the loess hills in the northwestern part of the state is so distinct, it will be described in a separate paragraph.

There is considerable mechanical as well as chemical difference in the soils of the different parts of the glaciated uplands, and they vary greatly in fertility. However, in general they are more uniform over wide areas than are the residual soils of the Ozark region and of the unglaciated prairies. Judging by the character of the flora, neutral or subalkaline soils are most common.

A typical prairie flora, consisting largely of grasses and perennial herbs in which legumes and composites played a conspicuous part, covered the uplands before they were brought under agriculture. Only a few traces of this now remain, the best examples being along the fenced right-of-way of the railroads. Most of the species of this flora are also found in the unglaciated areas farther south. There are few or no trees along the margins of most of the smaller streams, but sometimes there are a few cottonwoods or willows or small thickets of shrubs alternating with the tall grass and ranker growth of herbs. Amongst common species here, besides the black willow and cottonwood, are *Salix cordata*, *S. missouriensis*, *S. interior*, *Prunus americana*, *P. virginiana*, *Amorpha fruticosa*, *Vitis vulpina*, *Cornus asperifolia*, *Cephalanthus occidentalis*, and *Viburnum prunifolium*. Of this list only the choke cherry (*Prunus virginiana*) is practically restricted to the sub-region.

In addition to this widely spread prairie flora of the uplands, which centers in the western plains, and the wooded strips of the alluvial valleys, evident extensions of the eastern and

southern forest, there is a sprinkling of distinctly northern plants that are generally distributed over the glaciated areas of the middle and eastern states. These plants, although forming a comparatively small percentage of the flora, are the most characteristic species in distinguishing this sub-region. Less detailed study of the flora has been done in this sub-region than in any other part of the state, and it is probable that the small list of characteristic species could be considerably increased if systematic collecting were undertaken in all of the counties.

The flora of the loess areas, or where the glacial drift has been redistributed, has little to distinguish it from that of the drift areas except on the terraced bluffs and mound-like hills along the Missouri River in the northwestern corner of the state. So many peculiar plants are found in that locality that it must be regarded as a small but distinct sub-region.

CHARACTERISTIC PLANTS OF THE GLACIATED SUB-DIVISION OF THE PRAIRIE REGION

<i>Pteris nodulosa</i>	<i>Ulmus Thomsii</i>
<i>Phalaris arundinacea</i>	<i>Acer nigrum</i>
<i>Phragmites communis</i> var. <i>Berlandieri</i>	<i>Acer Negundo</i> var. <i>violaceum</i>
<i>Calamagrostis canadensis</i> var. <i>Macounii</i>	<i>Vitis vulpina</i>
<i>Allium tricoccum</i>	<i>Asclepias Sullivantii</i>
<i>Solidago stellata</i>	<i>Lithospermum carolinense</i>
<i>Medeola virginiana</i>	<i>Phlox pilosa</i> var. <i>fulgida</i>
<i>Salix petiolaris</i>	<i>Collomia linearis</i>
<i>Salix cordata</i> var. <i>angustata</i>	<i>Chelone obliqua</i> var. <i>speciosa</i>
<i>Populus tremuloides</i>	<i>Frazinus pennsylvanica</i>
<i>Urtica procera</i>	<i>Sambucus racemosa</i>
<i>Anemone canadensis</i>	<i>Viburnum Lentago</i>
<i>Spiraea alba</i>	<i>Viburnum affine</i> var. <i>hypomalacum</i>
<i>Rosa blanda</i>	<i>Lonicera dioica</i> var. <i>glaucescens</i>
<i>Rosa suffulta</i>	<i>Senecio pauperulus</i>
<i>Prunus virginiana</i>	<i>Prenanthes alba</i>
<i>Quercus ellipsoidalis</i>	<i>Artemisia vulgaris</i> var. <i>gnaphalodes</i>
	<i>Antennaria neglecta</i>

Several of the species of this list are quite local within the area and others are not strictly confined to the glaciated areas, but they are typical plants of the northern flora that in a few cases have spread somewhat farther south.

The loess is best developed and attains its greatest thickness above the bluffs of the Missouri River, interrupted, from the northwest corner of the state to below Kansas City. Because of the rapid and characteristic way in which erosion has worked upon it, a peculiar type of topography, with terraced hills or mounds separated by deep, steep-sided ravines, has been developed. The best examples of this topography are found in Atchison and Holt counties, and a number of plants from the northwestern plains are found here and are restricted to this sub-region.

The alluvial lands along the river are heavily wooded, and many of the forest species extend up the deeper ravines, but rapid erosion and wind action have kept the slopes bare in most places, although a few woody plants are found at the tops of some of the mounds. Occasionally a few cottonwoods and willows and a stunted form of the bur oak grow in such places or on the slopes where they are not too steep. Grasses and other herbaceous plants constitute the bulk of the flora, and some of the plains species reach their eastern limit here. The bear grass (*Yucca glauca*) is one of the most characteristic species. Amongst the few other shrubs are the prairie willow (*Salix humilis*), the lead plant (*Amorpha canescens*), and the downy-leaved red-root (*Ceanothus ovatus* var. *pubescens*). The low oak, *Quercus macrocarpa* var. *olivaeformis*, is abundant in places. It is usually a stout spreading shrub, but may become a small tree in protected situations. The fruit is small and elongated and the leaves are extremely variable in shape.

The incursion of this northwestern flora into the state may have taken place about the same time that the plants of the southwestern plains overran the Ozark region. Due to the somewhat drier conditions that still prevail here and to the rapid rate of erosion, this flora has not had to encounter the competition of the advancing forest that has pressed upon and almost engulfed the xerophytic plains flora to the south, so that it has remained dominant over the small favorable areas of the loess hills.

CHARACTERISTIC PLANTS OF THE LOESS HILLS

<i>Muhlenbergia cuspidata</i>	<i>Euphorbia serpens</i>
<i>Bouteloua hirsuta</i>	<i>Euphorbia marginata</i>
<i>Bouteloua gracilis</i>	<i>Euphorbia glyptosperma</i>
<i>Sporobolus airoides</i>	<i>Oenothera serrulata</i>
<i>Yucca glauca</i>	<i>Gaura coccinea</i>
<i>Anemone cylindrica</i>	<i>Teucrium occidentale</i>
<i>Chenopodium dakoticum</i>	<i>Pentstemon grandiflorus</i>
<i>Atriplex patula</i>	<i>Castilleja sessiliflora</i>
<i>Quercus macrocarpa</i> var. <i>olivaeformis</i>	<i>Syphoricarpos occidentalis</i>
<i>Cleome serrulata</i>	<i>Liatris acidota</i>
<i>Rosa polyanthema</i>	<i>Heterotheca subaxillaris</i>
<i>Rosa conjuncta</i>	<i>Artemisia vulgaris</i> var. <i>gnaphalodes</i>
<i>Oxytropis platensis</i>	<i>Cirsium discolor</i>
<i>Astragalus lotiflorus</i>	<i>Lygodesmia juncea</i>
<i>Poorela argophylla</i>	<i>Lactuca pulchella</i>
<i>Dalea enneandra</i>	<i>Chrysopsis Berlandieri</i>
<i>Glycyrrhiza lepidota</i>	

Salt licks and saline springs.—Natural saline areas occur in the form of salt "licks" and saline springs, and are found in portions of the prairie region, particularly the glaciated prairie, in areas adjacent to streams and usually in territory of low relief. They reach their greatest development in middle Missouri in Saline, Randolph, Howard, and Cooper counties. The soil immediately around such springs is heavily charged with concentrated alkaline salts, and supports an unusual assemblage of plants, some of which are known only from such places. *Typha angustifolia* and *Eleocharis parvula* have been found in marshy ground around certain saline springs, and are known in Missouri only from these stations. Floating in the water of the springs or branches from them are clumps of *Zannichellia palustris*, *Potamogeton pectinatus*, *Callitricha heterophylla*, and species of *Chara* and *Nitella*. Other species which are found around the saline springs include *Scirpus americanus*, *S. fluviatilis*, *Typha latifolia*, *Diplachne fascicularis* and *D. acuminata*, *Atriplex rosea* and *A. patula* var. *hastata*, *Polygonum aviculare* and var. *angustissimum*, *Echinochloa pungens*, and many others.

The Unglaciated sub-division of the Prairie region.—There is no even approximate natural boundary between the Ozark

region and the unglaciated part of the Prairie region to the west of it as is formed by the Missouri River on the north, and the line of demarcation is often very irregular and indefinite, with the Ozark flora dominant on broken rocky ground along streams and the prairie flora occupying the more level and open parts of the uplands over a wide transition zone. This is particularly noticeable in areas of Mississippian limestone and chert, which is the surface formation along most of the border line, with an increasing width towards the south. As the soils of the uplands are all residual, it is easy to account for this rather sharp contrast between the flora growing on different geological formations. West of this belt of limestone and over most of the sub-region the sandstones and shales of the Pennsylvanian series are the surface rocks. Because of the comparatively soft character of these formations some of the streams have developed broad shallow valleys, subject to frequent overflow, and with numerous small shallow lakes and sloughs in which many aquatic and semi-aquatic plants flourish. These wide flood plains are particularly well developed along the Grand and Marais des Cygnes rivers and some of their small tributaries. *Typha latifolia*, *Leersia virginica*, *L. oryzoides*, *Spartina pectinata*, *Nelumbo pentapetala*, *Nymphaea advena*, *Ceratophyllum demersum*, *Jussiaea diffusa*, *Myriophyllum scabratum*, *Proserpinaca palustris* var. *crebra*, and species of *Potamogeton* and *Sagittaria* are characteristic of such places. The pin oak (*Quercus palustris*) is abundant along the smaller streams and in the borders of low woods, and the pecan (*Carya illinoensis*) in somewhat drier situations.

The true prairie flora of the uplands is quite similar to that of the Glaciated sub-division just described, but with an increasing proportion of southwestern species towards the south. Other conspicuous differences in the two sub-divisions are the absence of most of the characteristic northern plants to which attention was called in the last list, and in the greater variety of trees and shrubs found along the streams.

The prairie flora has been better preserved here than in the northern part of the state, due to the fact that large tracts have

been kept as grazing lands as well as for putting up hay of the native grasses. In the big prairie hay fields of Vernon, Barton, and Jasper counties, as well as along the railways, fine examples of the native flora can be seen. The prairies here are very attractive at different seasons, with a profusion of flowering plants, many of them of brilliant colors. With the first warm days of spring little drabas, March lily (*Erythronium mesochoreum*), spring beauty, prairie anemone (*Anemone caroliniana*), buttercups, violets, and bluets (*Houstonia minima*) begin to appear; and these are followed quickly by wild hyacinth (*Camassia hyacinthina*), spiderwort (*Tradescantia canaliculata*), wild roses, blue-, yellow-, and white-flowered wild indigo (*Baptisia vespertina*, *B. leucophaea*, and *B. leucantha*), bush clover, prairie clover (*Petalostemum purpureum* and *P. candidum*), wild senna, shooting star, phlox, Indian blanket, larkspur (*Delphinium Penardii*), gromwell (*Lithospermum canescens* and *L. angustifolium*), and coreopsis (*Coreopsis grandiflora*). Later come butterfly-weed, milk-weed, horse-mint, gerardias, wine cups (*Callirhoe digitata*), blazing star (*Liatris scariosa* and *L. pycnostachya*), ironweeds, rosin-weeds, and many species of asters and solidagos.

On the Barton upland, in the southwestern part of Barton County and the northwestern part of Jasper County, a number of peculiar plants have been found, some of which are known nowhere else in the state. The upland prairies here have a sandy soil, with blocks of residual sandstone scattered over the surface and ledges sometimes outcropping, producing little glades or barrens; and along the small intermittent streams are small boggy areas with an acid type of soil. Some of the plants found here are *Andropogon ternarius*, *Setaria geniculata*, *Panicum scoparium*, *Rynchospora capitellata*, *R. cymosa*, *Scleria ciliata*, *Scirpus carinatus*, *Carex arkansana*, *Juncus interior*, *J. effusus* var. *solutus*, *J. validus*, *J. nodatus*, *Geocarpon minimum*, *Anemone caroliniana*, *Ranunculus oblongifolius*, *Crotonopsis elliptica*, *Saxifraga texana*, *Rhexia interior*, *Marshallia caespitosa*, and *Chrysopsis pilosa*.

CHARACTERISTIC PLANTS OF THE UNGLACIATED SUB-DIVISION
OF THE PRAIRIE REGION

<i>Sagittaria ambigua</i>	<i>Rubus Bushii</i>
<i>Andropogon saccharoides</i>	<i>Ammannia auriculata</i>
<i>Sporobolus osarkanus</i>	<i>Lotus americanus</i>
<i>Tripsacum dactyloides</i>	<i>Rotala ramosior</i> var. <i>interior</i>
<i>Panicum scoparium</i>	<i>Rhexia interior</i>
<i>Schedonnardus paniculatus</i>	<i>Asolepis syriaca</i> var. <i>kansana</i>
<i>Koeleria cristata</i>	<i>Sabatia campestris</i>
<i>Fimbristylis autumnalis</i>	<i>Lobelia spicata</i> var. <i>hirtella</i>
<i>Carex oklahomensis</i>	<i>Agalinis fasciculata</i>
<i>Carex Bicknellii</i>	<i>Gutierrezia dracunculoides</i>
<i>Juncus validus</i>	<i>Solidago gymnospermoidea</i>
<i>Erythronium mesochoreum</i>	<i>Helianthus salicifolius</i>
<i>Sisyrinchium campestre</i> var. <i>kansanum</i>	<i>Artemesia vulgaris</i> var. <i>ludoviciana</i>
<i>Anemone caroliniana</i>	<i>Marshallia caespitosa</i>
<i>Draba reptans</i>	<i>Aster paludosus</i>

Many of the most abundant and striking plants of the unglaciated prairies are of wide distribution throughout the state and therefore cannot be included amongst the distinctive plants of the sub-division, although, since they often dominate the flora and give character to it, they are in a sense characteristic. Most conspicuous amongst these may be mentioned *Andropogon scoparius* var. *frequens*, *A. provincialis*, *Sorghastrum nutans*, *Tradescantia canaliculata*, *Camassia hyacinthina*, *Ranunculus fascicularis*, *Delphinium Penardi*, *Rosa setigera* var. *tomentosa*, *Desmanthus illinoensis*, *Schrunkia uncinata*, *Cassia fasciculata*, *Baptisia leucophaea*, *B. leucantha*, *Petalostemum purpureum*, *P. candidum*, *Astragalus mexicanus*, *Amorpha canescens*, *Desmodium illinoense*, *D. canadense*, *D. sessilifolium*, *Lespedeza capitata*, *Linum medium*, *Polygala incarnata*, *Croton capitatus*, *Euphorbia corollata*, *Callirhoe digitata*, *Viola sagittata*, *Jussiaea diffusa*, *Gaura biennis*, *Oenothera biennis*, *Eryngium yuccifolium*, *Ptilimnium Nuttallii*, *Cicuta maculata*, *Polytaenia Nuttallii*, *Apocynum cannabinum*, *Asclepiodora viridis*, *Asclepias tuberosa*, *A. incarnata*, *A. verticillata*, *Acerates viridiflora*, *A. hirtella*, *Phlox pilosa*, *Lithospermum canescens*, *L. angustifolium*, *Verbena stricta*, *V. canadensis*, *Physostegia virginiana*, *Monarda mollis*, *Castilleja coccinea*, *Pentstemon tubiflorus*, *P. Digitalis*, *Houstonia*

minima, *Vernonia crinita*, *V. Baldwinii*, *V. missurica*, *Liatris scariosa*, *L. pycnostachya*, *Solidago glaberrima*, *S. speciosa*, *S. altissima*, *Aster praealtus*, *A. ericoides* var. *prostratus*, *Antennaria plantaginifolia*, *Silphium laciniatum*, *S. integrifolium*, *Rudbeckia subtomentosa*, *Echinacea pallida*, *Ratibida pinnata*, *Helianthus rigidus*, *H. mollis*, *H. grosse serratus*, *H. hirsutus*, *Coreopsis tripteris*, *C. palmata*, and *Cacalia tuberosa*.

Besides the main plant regions and their sub-divisions and the isolated colonies of relic plants which have been described, a number of species have been found only in a single locality or in a few widely separated localities in the state, and several others seem to be confined to a single geological formation.

Thelypteris spinulosa, *Saxifraga pensylvanica* var. *Forbesii*, and *Sullivantia renifolia* have been found only on outcrops of St. Peter sandstone, near the Mississippi and Missouri Rivers from Jefferson to Montgomery counties. Somewhat farther south in the Iron Mountain area, *Dennstaedtia punctilobula*, *Lycopodium complanatum* var. *flabelliforme*, *Goodiera pubescens*, and *Viola pallens* are known only very locally on the La Motte sandstone. *Pedicularis lanceolata*, a species which is usually known only from much farther north than Missouri, west of the Mississippi, has been found in acid bogs in Iron, Shannon, Morgan, and Greene counties. In the central part of the Ozark region *Silene Wherryi*, a plant of the southern Appalachians, has been collected in Phelps, Pulaski, Dent, Douglas, Shannon, Texas, and Laclede counties, where it grows in cherty woods. *Zigadenus Nuttallii* and *Eriogonum longifolium* have been found only in Oregon County. In the limestone glades of Jackson and Cass counties *Cogswellia daucifolia* is locally abundant, although it is known from no other locality in the state. The general range of this species is westward through Nebraska to Texas, and it is a curious fact that *Clematis Fremontii*, with a similar general range, has been found only in limestone glades on the opposite side of the state. *Geocarpon minimum*, a very interesting little plant both because of its rarity and also because it seems to be in some respects a connecting link between the plant families

Aizoaceae and Caryophyllaceae, was discovered in sandstone glades in Jasper County, and it is so far known from no other locality. *Epipactis latifolia* has been found in the same county, and this is apparently the only record for this species west of Pennsylvania. There seems to be no doubt that it is native at this station. *Amsonia ciliata* var. *tenuifolia* is growing abundantly in glades of the bald knob type in Ozark and Douglas counties, and these are also the only known localities for it in the state. Mention has already been made of a number of other similar instances in describing the Jam-up Bluff locality of Shannon County and the glades and bald knobs of other parts of the state, and the list of such species could probably be considerably lengthened.

Several distinctly southern or coastal species of the South-eastern lowlands again appear in the extreme southwestern part of the state. Amongst these are *Scirpus carinatus*, *Paspalum floridanum*, *Triodia stricta*, *Leersia lenticularis*, *Melothria pendula*, *Mecardonia acuminata*, and *Agalinis viridis*. Some of these wide gaps in distribution may be filled in by future discoveries, and in some cases at least they would seem to indicate a former wider distribution of the species in the intervening areas.

More than 10 per cent of the plants included in the present catalogue have been introduced into the state since the settlement of the country by Europeans. Most of these are weeds or grasses that grow in waste places or in cultivated ground. Many of them have become thoroughly established and common, and in some cases they are crowding out to a great extent the native species which find themselves unable to compete with them. Some of our introduced plants were formerly cultivated for their supposed medicinal value or for other uses, and others were first grown as ornamental plants in old gardens. The day-lily, blackberry lily, Queen Anne's lace, hoarhound, catnip, motherwort, matrimony-vine, Gill-over-the-ground, butter-and-eggs, bouncing Bet, and teasel are familiar examples of these.

Most of the introduced plants are very adaptable and con-

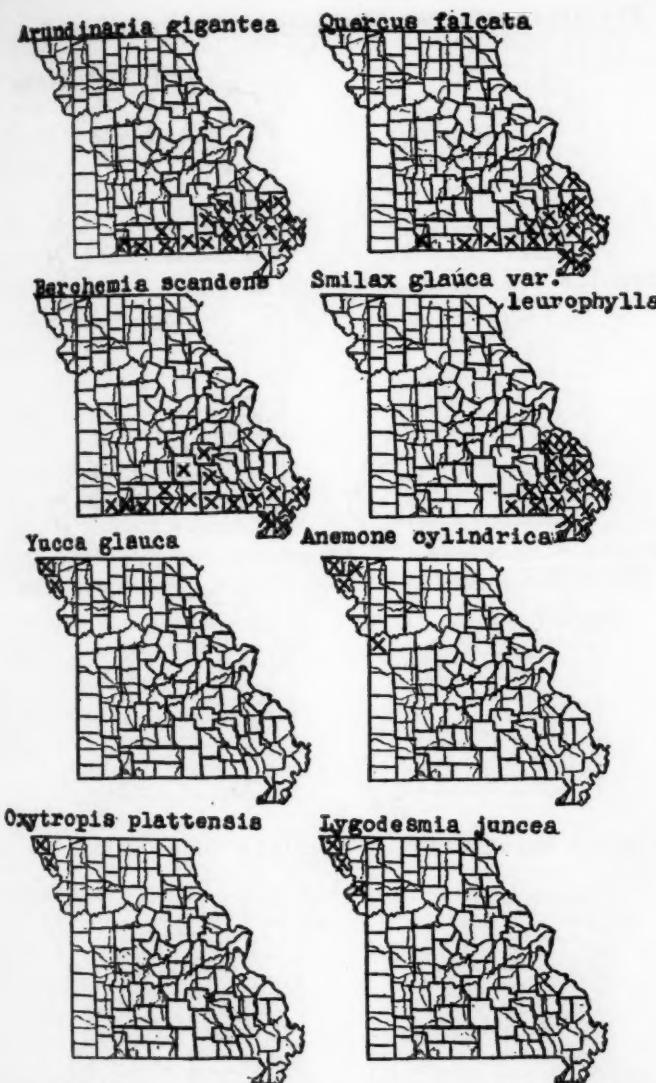


Fig. 3. Showing occupation of three species in the Southeastern lowlands and in the White and Current River systems (first three maps); of *Smilax glauca* in the Southeastern lowlands; and of four species in the loess mounds (lower four maps). Since the maps were made, *Arundinaria gigantea* has been found in Pemiscot, Dunklin, Barry, and McDonald counties, and *Quercus falcata* in Barry Co.

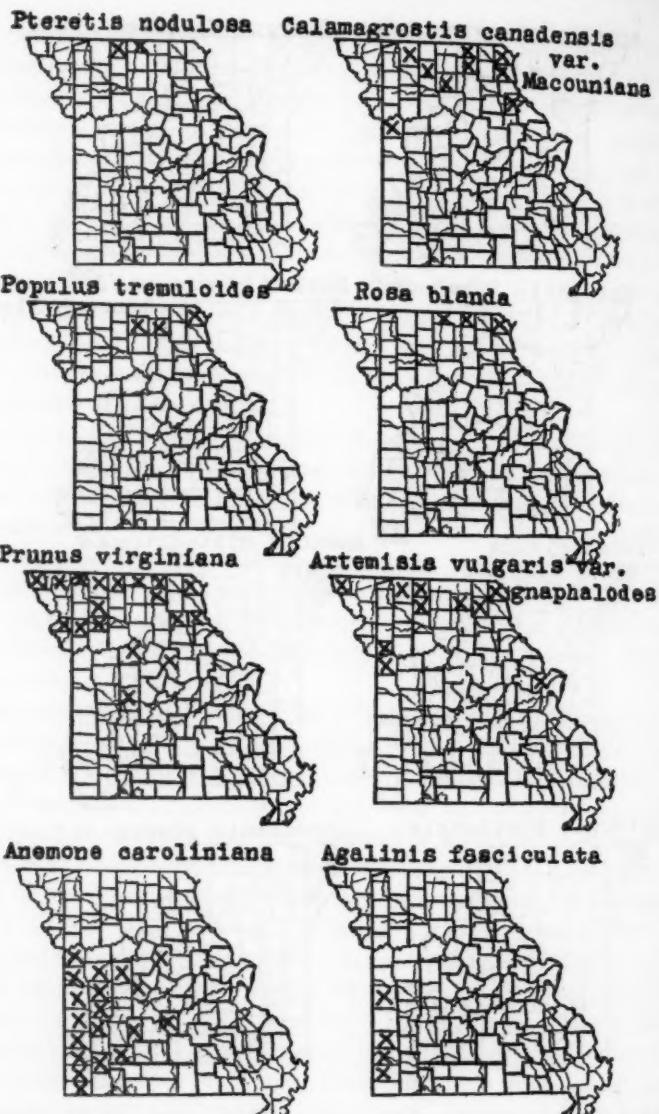


Fig. 4. Showing occupation of species in the glaciated prairie region of northern and central Missouri (upper six maps); of two species in the unglaciated region (lowest two maps).

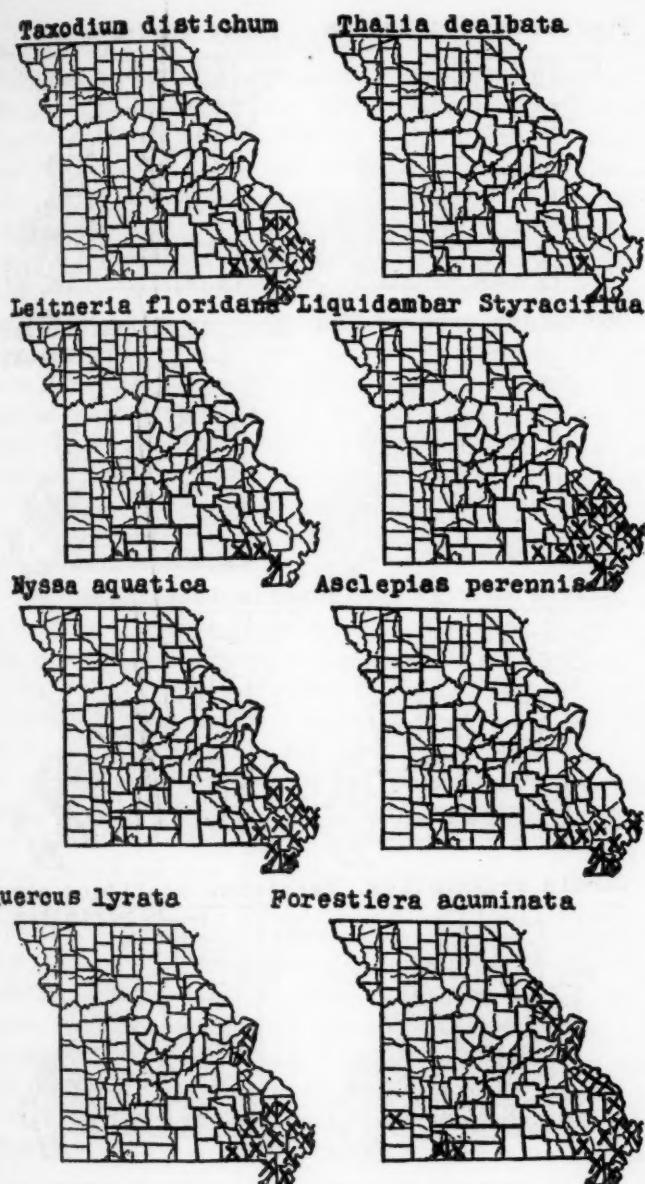
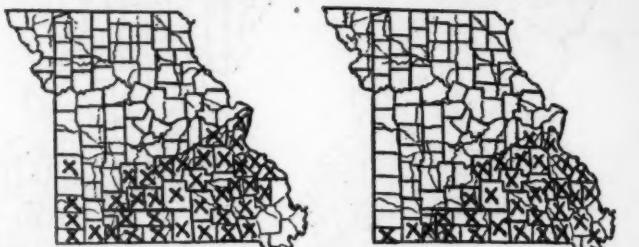


Fig. 5. Showing occupation of species in the Southeastern lowlands (upper six maps); species extending outside the limits of this region (lowest two maps).

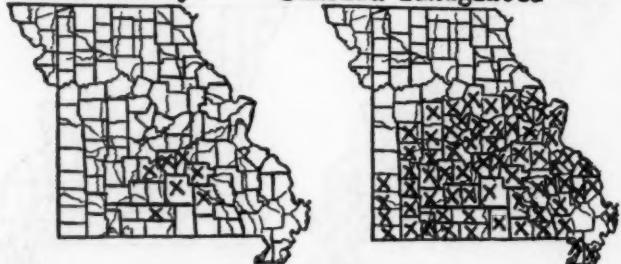
Pteridium latiusculum *Pinus echinata*



Hydrangea arborescens *Quercus Shumardii var. Schneckii*



Silene Wherryi *Bumelia lanuginosa*



Cunila organoides *Vaccinium vacillans var. crinitum*



Fig 6. Distribution of eight species occupying the Ozark region.

sequently they are not restricted to any type of soil, and their distribution has little significance or relation to the native flora. In a few cases, however, they seem to be limited to certain areas or environments and to show little disposition to spread beyond them. Amongst such plants are the Japanese clover (*Lespedeza striata*), common only in rocky ground in the Ozark region although sometimes found elsewhere, *Heliotropium indicum* and *Perilla frutescens* that seem inclined to spread only in the southern counties, the teasel, which seems to establish itself mainly along rocky stream beds in the eastern and southern counties, and the recently introduced *Tamarix gallica*, which, judging by its behavior in other sections, is likely to spread along the margins of the great rivers but scarcely beyond them. Southern species, such as *Arundo Donax* and the water hyacinth (*Eichhornia crassipes*), if they persist will probably be confined to the Southeastern lowlands.

The number and relative proportion of introduced plants tend constantly to increase as the country becomes more thickly settled and as means of transportation and communication multiply. Many of them have been brought in by railroads, either in ballast or merchandise or in the cleanings of cars, and new immigrants are often first noticed along railways or about railroad centers. Although some of them show little tendency to spread far beyond the place of introduction, others extend their range rapidly and in a few years cover large sections or all parts of the state. The rapid spread in recent years of the white- and yellow-flowered sweet clover and of *Torilis Anthriscus* and *Helenium tenuifolium* is a good example of this.

The great majority of our weed immigrants are of European origin; others came originally from Asia, and a few from South America or other parts of the world. Some weedy species, and others that would scarcely be called weeds, have been introduced into the state from the West or from other parts of North America, and in some cases species that are native in one part of the state have been introduced into other sections where they are now established. This is sometimes

confusing in considering the natural distribution of species and its significance, and attention is called to some of these in the notes accompanying the catalogue.

Species which are found native in some part of the United States are printed in bold-face type, while the introduced species (i. e., native of some country other than the United States) appear in Roman capitals.

The maps and descriptions of the different plant regions of the state, with the lists of characteristic plants found in them, will serve to give some idea of the diversity and richness of the flora of Missouri and of the varied elements that enter into it.

BIBLIOGRAPHY OF PHANEROGAMIC BOTANY OF MISSOURI*

- Adams, G. I. ('01). Physiography and geology of the Ozark region. U. S. Geol. Surv. Ann. Rept. 23: 69-94. 1901.
- Aellen, P. ('29). Beitrag zur Systematik der Chenopodium Arten-Amerikas. Fedde's Rep. Sp. Nov. Veg. 26: 119-160. 1929.
- Allen, T. ('76). Missouri, its history, characteristics, resources, and present conditions. 29 pp. 1876.
- Anderson, E. ('29). Variation in *Aster anomalous*. Ann. Mo. Bot. Gard. 16: 129-144. 1929.
- _____, ('31). The chromosome complements of *Allium stellatum* and *Nothoscordum bivalve*. *Ibid.* 18: 465-468. 1931.
- _____, ('33). Variation in flower color in *Hamamelis vernalis*. Jour. Arn. Arb. 14: 253-257. 1933.
- _____, and Diehl, D. G. ('32). Contributions to the Tradescantia problem. *Ibid.* 13: 213-231. 1932.
- Anonymous, ('95a). The Canada thistle. Independence Sentinel. Jan. 4, 1895.
- _____, ('95b). The Russian thistle. Jackson Co. Tribune. June 29, 1895; also Independence Sentinel. June 24, 1895.
- _____, ('13). George W. Letterman. Mo. Bot. Gard. Bull. 1: 102-103. 1913.
- _____, ('20a). Collecting native plants for the Garden. *Ibid.* 8: 33-35. 1920.
- _____, ('20b). Native plants suitable for gardens of Missouri and adjoining states. *Ibid.* 35-46, 52-59, 63-67, 69-77, 85-95, 104-110, 117-120, 127-130. 1920.
- _____, ('21). Unusual late-flowering period of plants. *Ibid.* 9: 126-128. 1921.
- _____, ('22a). Medicinal plants of our local flora. *Ibid.* 118-123, 137-142, 153-157. 1922.
- _____, ('22b). Plant immigrants of our local flora. *Ibid.* 48-52, 84-92. 1922.

*Although this bibliography is intended to be as complete as possible, there are probably additional titles which have not been brought to the authors' attention.

- _____, ('22e). Plants of our local flora which have been used by man as food. *Ibid.* 102-110. 1922.
 _____, ('22d). Plants of very limited local distribution. *Ibid.* 166-170. 1922.
 _____, ('22e). Vanished plants of our local flora. *Ibid.* 10: 28-33. 1922.
 _____, ('22f). White red-bud. *Ibid.* 110. 1922.
 _____, ('23). The hawthorn—the official state flower. *Ibid.* 11: 45-55. 1923.
 _____, ('24). Local oaks and their uses. *Ibid.* 12: 25-32. 1924.
 _____, ('25). List of Missouri wild flowers according to time of blooming. *Ibid.* 13: 59-70, 75-92, 95-110, 120-122. 1925.
 _____, ('26a). The conifers of Missouri. *Ibid.* 14: 25-34. 1926.
 _____, ('26b). The river birch. *Ibid.* 67-69. 1926.
 _____, ('26c). Spring flowers in winter. *Ibid.* 155-157. 1926.
 _____, ('27a). The earliest St. Louisian of botanical note. *Ibid.* 15: 147-152. 1927.
 _____, ('27b). The landscape of St. Louis in 1727. *Ibid.* 96-102. 1927.
 _____, ('27c). Two botanists of frontier days. *Ibid.* 42-54. 1927.
 _____, ('28a). Check-list of the ferns and flowering plants indigenous to the Missouri Botanical Garden Extension, Gray Summit, Missouri. *Ibid.* 16: 65-74, 83-91. 1928.
 _____, ('28b). A notable native plant (*Sabatia angularis*). *Ibid.* 93-94. 1928.
 _____, ('29a). Early spring flowers in Missouri pasture lands. *Ibid.* 17: 41-51. 1929.
 _____, ('29b). A winter-flowering shrub native to Missouri. *Ibid.* 30-32. 1929.
 _____, ('30a). Records of first blooming of wild flowers in the vicinity of Saint Louis. *Ibid.* 18: 82-84. 1930.
 _____, ('32). Native plants in flower at the Missouri Botanical Garden Arboretum, Gray Summit, Mo., May 10, 1933. *Ibid.* 21: 91-92. 1933.
 Ashe, W. W. ('00a). Contributions from my herbarium. *Bull. N. C. Agr. Exp. Sta.* 175: 110. 1900.
 _____, ('00b). *Ibid.* VI. New East American species of *Crataegus*. *Jour. Elisha Mitchell Sci. Soc.* 16: 72-75. 1900.
 _____, ('00c). *Ibid.* X. Some East American species of *Crataegus*. *Ibid.* 17: 12. 1900.
 _____, ('01). *Ibid.* XI. *Ibid.* 17: 8-9. 1901.
 _____, ('03). New North American thorns. *Ibid.* 19: 16. 1903.
 _____, ('04). East American thorns. *Ibid.* 20: 1. 1904.
 _____, ('24). Notes on woody plants. *Ibid.* 40: 43-48. 1924.
 _____, ('25a). Notes on woody plants. *Ibid.* 41: 269. 1925.
 _____, ('25b). Further notes on woody plants. *Torreya* 25: 10-11. 1925.
 _____, ('31). Notes on Vacciniaceae. *Rhodora* 33: 193-198. 1931.
 Bailey, L. H. ('32). North American blackberries. *Gentes Herbarum* 2: 271-423. *figs.* 147-182. 1932.
 Barnes, C. R. ('77). Notes on the flora of Clinton Co., Missouri. *Bot. Gaz.* 2: 138-139. 1877.
 Beck, L. C. (1826-28). Contributions towards the botany of the states of Illinois and Missouri. *Am. Jour. Sci.* 10: 257-264. 1826; 11: 167-182. 1826; 14: 112-121. 1828.

- Beilmann, A. P. ('32). Big trees in Missouri. Mo. Bot. Gard. Bull. 20: 149-151. 1932.
- Benke, H. C. ('28). Two new varieties of early spring plants. Rhodora 30: 200-201. 1928.
- _____, ('32). Earliest spring flowering plants. Am. Midl. Nat. 13: 89-109. 1932.
- Berry, E. W. ('11). Notes on the ancestry of the bald cypress. Plant World 14: 39-45. 1911.
- _____, ('12a). Notes on the geological history of the walnuts and hickories. Ibid. 15: 225-240. 1912.
- _____, ('12b). Some ancestors of the persimmon. Ibid. 15-21. 1912.
- _____, ('20). The geological history of the sweet gum and witch hazel. Ibid. 22: 345-354. 1920.
- Blake, S. F. ('18). On some species of Viburnum. Rhodora 20: 14. 1918.
- Bourne, A. (1820). Prairies and barrens of the West. Am. Jour. Sci. 2: 30-34. 1820.
- Boynton, C. L., and Beadle, C. D. ('02). Notes on certain cone flowers. Biltmore Bot. Stud. 1: 11-18. 1902.
- Brackenridge, H. M. (1814). Views of Louisiana. Pittsburgh, 1814.
- _____, (1816). Journal of a voyage up the Missouri River in 1811. 2nd ed. Baltimore, 1816. [In Thwaites, Early Western Travels 6: 23-166. 1904].
- Bradbury, J. (1815). A description of the minerals and plants found at the lead mines in the Missouri territory. New York, 1815. [In Medical Repository of Original Essays and Intelligence, etc. N. S. 3: 135-138. 1817].
- _____, (1819). Travels in the interior of America in the years 1809-11. 2nd ed. London, 1819. [In Thwaites, Early Western Travels 5: 9-320. 1904].
- Bratton, S. T. ('26). The geography of the St. Francis Basin. Univ. Mo. Stud. 1: 1-54. 1926.
- Broadhead, G. C. Manuscript list of Missouri plants.
- _____, ('67a). Botany and geology of Cass County. Mo. State Bd. Agr. Rept. 2: 226-229. 1867.
- _____, ('67b). Distribution of trees and shrubs in Missouri. Ibid. 97-99. 1867.
- _____, ('74). Geol. Surv. Mo. Rept. 1873-1874: 734 pp. Jefferson City, 1874.
- _____, ('76). *Quercus heterophylla*. Bot. Bull. 1: 9-10. 1876.
- _____, ('78a). On the distribution of certain plants in Missouri. Bot. Gaz. 3: 51-53, 58-61. 1878.
- _____, ('78b). The range of the common huckleberry in Missouri. Ibid. 24: 1878.
- _____, ('79). Geographical description of certain trees and plants in Missouri and Kansas. Kansas City Review 3: 608-611. 1879.
- _____, ('80). *Melanthium virginicum*. Bot. Gaz. 5: 232. 1880.
- _____, ('84). Relations of soils of Missouri to geology. Mo. State Bd. Agr. Ann. Rept. 17: 159-168. 1884.
- _____, Meek, F. B., and Shumard, B. F. ('73). Geol. Surv. Mo. Rept. 1855-1871: 323 pp. Jefferson City, 1873.
- Buchholz, J. T. ('30). The Ozark white cedar. Bot. Gaz. 90: 326-332, figs. 1-2. 1930.

- Bush, B. F. ('82). Notes from Independence, Missouri. *Ibid.* 7: 24. 1882.
_____, ('84). Missouri Notes. *Ibid.* 9: 63. 1884.
_____, ('85). Flora of Jackson Co. 16 pp. Independence, 1882; 1st suppl. 8 pp. 1885.
_____, ('89). Report on the botany of Jackson County. Mo. Hort. Soc. Rept. [1888]. 31: 370-372. 1889.
_____, ('91). Distribution of the trees, shrubs, and vines of Jackson County, Missouri. Kansas City Scientist 5: 161-164. 1891.
_____, ('94). Notes on a list of plants collected in southeastern Missouri in 1893. Ann. Rept. Mo. Bot. Gard. 5: 139-153. 1894.
_____, ('95a). Hybrid oaks in western Missouri. Garden & Forest 8: 32-33. 1895.
_____, ('95b). A list of the trees, shrubs, and vines of Missouri. Rept. Mo. Hort. Soc. [1894]. 37: 353-393. 1895.
_____, ('95c). Notes on the mound flora of Atchison County, Missouri. Ann. Rept. Mo. Bot. Gard. 6: 121-134. 1895.
_____, ('95d). *Quercus Phellos* × *rubra* in Missouri. Garden & Forest 8: 379. 1895.
_____, ('97). Notes on the botany of some southern swamps. Garden and Forest 10: 514-516. 1897.
_____, ('00). In Davis, K. C., Native and garden delphiniums of North America. Minn. Bot. Studies 2: 444. 1900.
_____, ('03). A new genus of grasses. Trans. Acad. Sci. St. Louis 13: 175-183. 1903.
_____, ('05). The American species of *Fuirena*. Ann. Rept. Mo. Bot. Gard. 16: 87-99. 1905.
_____, ('09). The Missouri saxifrages. Ann. Rept. Mo. Bot. Gard. 20: 138-140. 1909.
_____, ('11). The Missouri rhexias. Rhodora 13: 166-168. 1911.
_____, ('13). Notes on box elders. Am. Midl. Nat. 3: 148-150. 1913.
_____, ('14). A new *Antennaria*. *Ibid.* 3: 352-353. 1914.
_____, ('16). The Missouri agrimonies. Ann. Mo. Bot. Gard. 3: 309-318. 1916.
_____, ('18). The genus *Euthamia* in Missouri. Am. Midl. Nat. 5: 157-177. 1918.
_____, ('19). The Missouri muhlenbergias. *Ibid.* 6: 17-28, 33-49, 57-77, 81-97. 1919.
_____, ('26a). The Missouri species of *Elymus*. *Ibid.* 10: 49-88. 1926.
_____, ('26b). Notes on trees and shrubs of Missouri. *Ibid.* 133-158. 1926.
_____, ('27a). The glabrate species of *Tilia*. Bull. Torr. Bot. Club 54: 231-248. 1927.
_____, ('27b). A great blunder. Am. Midl. Nat. 10: 400-403. 1927.
_____, ('27c). Some species of *Viburnum*. *Ibid.* 225-243. 1927.
_____, ('27d). The species of *Polygonatum*. *Ibid.* 385-400. 1927.
_____, ('28a). The Missouri artemisias. *Ibid.* 11: 25-39. 1928.
_____, ('28b). Notes on trees and shrubs of Missouri. *Ibid.* 101-124. 1928.
_____, ('28c). Some species of *Saxifraga*. *Ibid.* 213-235. 1928.
_____, ('30). Notes on *Aesculus* species. *Ibid.* 12: 19-26. 1930.

- _____, ('31a). Francis Daniels' Carices. *Ibid.* 185-194. 1931.
_____, ('31b). Francis Daniels' grasses. *Ibid.* 343-362. 1931.
_____, ('31c). Shepard's Greene County Flora—An unpublished list of plants of Greene County, Missouri, by Prof. Edward M. Shepard, Springfield, Missouri. *Ibid.* 488-498. 1931.
_____, ('31d). Some Lacinaria species. *Ibid.* 312-318. 1931.
_____, ('31e). The sugar maples. *Ibid.* 499-503. 1931.
_____, ('34a). More about *Acer saccharum* Marshall. *Ibid.* 15: 784. 1934.
_____, ('34b). Prof. Shepard's trees of Greene County. *Ibid.* 581-585. 1934.
_____, ('35a). Francis Daniels' Flora of Columbia, Mo. *Ibid.* 16: 83-93. 1935.
_____, ('35b). The identity of *Prunus lanata* M. & B. *Ibid.* 254. 1935.
Call, R. E. ('89). Notes on the forest trees of Crowley's Ridge region. *Ark. Geol. Surv. Ann. Rept.* 2: 183-202. 1889.
Campbell, R. A. ('75). Gazetteer of Missouri. 794 pp. St. Louis, 1875.
Canby, W. M. ('85). An autobiography and some reminiscences of the late August Fendler. *I. Bot. Gaz.* 10: 285-290. 1885.
Coulter, S. M. ('04). An ecological comparison of some typical swamp areas. *Ann. Rept. Mo. Bot. Gard.* 15: 39. 1904.
Cutak, L. ('33). Prickly pear in fruit. *Mo. Bot. Gard. Bull.* 21: 141. 1933.
_____, ('34). *Talinum calycinum*. *Desert Life* 6: 52-53. 1934.
_____, ('34a). Talinums—lovely gems for our rock gardens. *Garden Gossip* 9: 3. 1934.
Daniels, F. ('98). A preliminary oecological study of the native and introduced plants of the vicinity of Columbia, Boone Co., Mo. *Mo. Agr. Exp. Sta. Ann. Rept.* 1898: 124-156. 1898.
_____, ('04). Plant formations in the vicinity of Columbia, Mo. *Science N. S.* 19: 170. 1904.
_____, ('07). Flora of Columbia, Missouri, and vicinity. *Univ. Mo. Stud. Sci. Ser.* 1: 1-319. 1907.
Deane, W., and Robinson, B. L. ('96). A new Viburnum from Missouri. *Bot. Gaz.* 22: 166-167. pl. 8. 1896.
Drouet, F. ('33). Notes on the flora of Columbia, Missouri. *Rhodora* 35: 359-364. 1933.
_____, ('35). Additional notes on the flora of Columbia, Missouri. *Ibid.* 37: 189-196. 1935.
_____, and Jeffrey, L. ('34). Grass flora of Columbia, Mo. *Ibid.* 36: 415-417. 1934.
Duke, W. W., and Durham, O. C. ('24). A botanic survey of Kansas City, Mo., and neighboring rural districts (with reference to the flora responsible for hay-fever, asthma, and dermatoses). *Jour. Am. Med. Assoc.* 82: 939-944. 1924.
Dunlap, F. ('21). Growth of oak in the Ozarks. *Mo. Agr. Exp. Sta. Res. Bull.* 41: 26 pp. 1921.
_____, ('29). List of Missouri trees. *Mo. State Bd. Agr. Bull.* 27: 1-15. 1929.
Eggert, H. ('91). Catalogue of the phaenogamous and vascular cryptogamous plants in the vicinity of St. Louis, Missouri. 16 pp. 1891.

- Elmore, C. J. ('26). Manual of the spring flowering plants of Liberty, Missouri, and vicinity. 116 pp. 1926.
- Emerson, T. V. ('12). Geography of Missouri. Univ. Mo. Stud. Educ. Ser. 1st: 1-70. 1912.
- Engelmann, G. ('44). Catalogue of a collection of plants in Illinois and Missouri, by Charles A. Geyer, with critical remarks, etc. Am. Jour. Sci. 46: 94-104. 1844.
- _____, ('48). Sketch of the botany of Dr. A. Wislizenus's expedition from Missouri to Santa Fe, Chihuahua, Parras, Saltillo, Monterey, and Matamoras. Washington, 1848.
- _____, ('59). Systematic arrangement of species of the genus *Cuscuta*. Trans. Acad. Sci. St. Louis 1: 453-523. 1859.
- _____, ('60a). Notes on the grape-vines of Missouri. *Ibid.* 660-662. 1860.
- _____, ('60b). Remarks on *Nelumbium luteum*. *Ibid.* 2: 136-139. 1860.
- _____, ('61). On dimorphism of *Draba brachycarpa*. *Ibid.* 154-155. 1861.
- _____, ('65). On the fruit and seed of different species of *Viburnum*. *Ibid.* 269-271. 1865.
- _____, ('80a). *Catalpa speciosa*. Bot. Gaz. 5: 1-3. 1880.
- _____, ('80b). *Fraxinus quadrangulata*. *Ibid.* 63. 1880.
- _____, ('83). *Vitis palmata* Vahl. *Ibid.* 8: 254-255. 1883.
- Engelmann Botanical Club, Check-list Committee of ('11). Preliminary check-list of the cryptogams and phanerogams in the vicinity of St. Louis, Missouri. 63 pp. 1911.
- Erlanson, E. W. ('28). Ten new American species and varieties of *Rosa*. Rhodora 30: 109-121. 1928.
- Fenneman, N. M. ('09). Physiography of the St. Louis area. Bull. Ill. Geol. Surv. 12: 83. 1909.
- Flint, T. (1832). History and geography of the Missouri Valley. 1-2. Cincinnati, 2nd ed. 1832.
- Galloway, B. F. ('85). Grasses of Missouri. Mo. State Bd. Agr. Ann. Rept. 18: 70-123. 1885.
- Glatfelter, N. M. ('94a). A study of the relations of *Salix nigra* and *Salix amygdaloides*, together with the hybrids arising from them as these species exhibit themselves in the vicinity of St. Louis. Trans. Acad. Sci. St. Louis 6: 427-431. 1894.
- _____, ('94b). A study of the venation of the species of *Salix* described in Gray's Manual, with reference to their determination. Ann. Rept. Mo. Bot. Gard. 5: 46-60. 1894.
- _____, ('95). *Salix Wardii*. Science N. S. 2: 582-584. 1895.
- _____, ('96a). Relations of *Salix missouriensis* to *S. cordata*. Trans. Acad. Sci. St. Louis 7: 137-144. 1896.
- _____, ('96b). *Salix cordata* × *sericea*. Bot. Gaz. 22: 392-400. 1896.
- _____, ('98). Notes on *Salix longipes* Shutt. and its relations to *S. nigra*. Ann. Rept. Mo. Bot. Gard. 9: 43-51. 1898.
- Harris, J. A. ('09). Correlation in the inflorescence of *Celastrus scandens*. Ann. Rept. Mo. Bot. Gard. 20: 116-122. 1909.
- _____, ('24). Variation and correlation in the inflorescence of *Manfreda virginica*. Ann. Mo. Bot. Gard. 11: 411-459. 1924.

- Harvey, F. L. ('80). Southwestern plants. *Bot. Gaz.* 5: 84. 1880.
_____, ('81). Leavenworthia in S. W. Missouri and N. W. Arkansas. *Ibid.* 6: 230. 1881.
Hilgard, E. W. ('84). General features of the alluvial plain of the Mississippi River below the mouth of the Ohio. *Rept. U. S. Bur. Census* 10: pt. 1. Cotton Production in the U. S. 1884.
Hooker, W. J. (1834-1836). Notice concerning Mr. Drummond's collections made in the southern and western parts of the United States. *Hook. Jour. Bot.* 1: 50-60, 183-202. 1834; Companion to *Bot. Mag.* 1: 21-26, 39-49, 95-101, 170-177. 1835; 2: 60-64. 1836.
Horsford, F. H. ('91a). Notes from the Missouri Botanical Garden. *Garden & Forest* 4: 225. 1891.
_____, ('91b). Notes from the St. Louis Botanical Gardens. *Ibid.* 284. 1891.
_____, ('91c). Some early native flowers. *Ibid.* 199-200. 1891.
_____, ('91d). Some native plants. *Ibid.* 356. 1891.
_____, ('91e). Wild flowers around St. Louis. *Ibid.* 260-261. 1891.
Houck, L. ('08). History of Missouri 1: 26. Chicago, 1908.
Hus, H. ('07a). Germination of *Hydrastis canadensis*. *Ann. Rept. Mo. Bot. Gard.* 18: 85-94. 1907.
_____, ('07b). Virescence of *Oxalis stricta*. *Ibid.* 99-108. 1907.
_____, ('08). Ecological cross-section of the Mississippi River in the region of St. Louis, Missouri. *Ibid.* 19: 127-259. 1908.
Irish, H. C. ('97). Comparative phenological notes. *Rept. Mo. State Bd. Hort.* 4: 325. 1897.
_____, ('99). Street trees for St. Louis. *Colman's Rural World* 52: 379. 1899.
Irwin, J. T. Manuscript list of trees and shrubs of the northeastern part of Mercer County, Missouri. 3 pp.
Jeffrey, L., and Drouet, F. ('34). Grass flora of Columbia, Mo. *Rhodora* 36: 415-417. 1934.
Jensen, L. P. ('13). Native and naturalized plants of Missouri suitable for ornamental planting. *Special Bull. Mo. State Bd. Hort.* 56: 72 pp. 1913.
_____, ('30). Wild flowers at the Gray Summit Extension. *Mo. Bot. Gard. Bull.* 18: 126-127. 1930.
_____, ('31). A white-flowering partridge pea. *Ibid.* 19: 38-39. 1931.
_____, ('32a). New plant immigrants in the Gray Summit Extension of the Garden. *Mo. Bot. Gard. Bull.* 20: 41-43. 1932.
_____, ('32b). Ozarks are a wild flower paradise. *The Blue Diamond* 27: 14-17. 1932.
_____, ('32c). The purple cone-flowers. *Mo. Bot. Gard. Bull.* 20: 68-69. 1932.
_____, ('33). Some interesting primroses. *Ibid.* 21: 132-134. 1933.
Kellogg, J. H., and Hogstad, A., Jr. ('30). Gray Summit Extension, the home of a wealth of wild flowers. *Ibid.* 18: 113-115. 1930.
Klem, M. ('14). History of science in St. Louis. *Trans. Acad. Sci. St. Louis* 23: 79-129. 1914.
La Mance, L. S. ('91). Our neglected native flowers. *Garden and Forest* 4: 358-359. 1891.

- _____, ('92a). A pretty native vine. *Ibid.* 5: 418. 1892.
_____, ('92b). *Spiraea Aruncus*. *Ibid.* 431. 1892.
_____, ('93). The reappearance of wild flowers. *Ibid.* 6: 219. 1893.
Ledgerwood, M. ('31). The American Bottom and the characteristic plants of the region. *Mo. Bot. Gard. Bull.* 19: 99-109. 1931.
Lewis, F. ('03). The Meramec hills and the poison in their plants. *St. Louis Daily Globe Democrat*. May 3, 1903.
Mackenzie, K. K. ('99). Spring flora of Kansas City and vicinity. 1899.
_____, (assisted by B. F. Bush and others), ('02). Manual of the flora of Jackson County, Missouri. 242 pp. 1902.
_____, ('05). *Onosmodium*. *Bull. Torr. Bot. Club* 32: 495-506. 1905.
_____, ('06). *Ranunculus sicaeformis*. *Torreya* 6: 123. 1906.
_____, ('13). Western allies of *Carex pennsylvanica*. *Ibid.* 13: 14-16. 1913.
_____, ('14a). A new genus from Missouri. *Ibid.* 14: 67-68. 1914.
_____, ('14b). A new southwestern sedge. *Ibid.* 125-127. 1914.
_____, and Bush, B. F., ('02a). The Lespedezas of Missouri. *Trans. Acad. Sci. St. Louis* 12: 11-19. pl. 1-4. 1902.
_____, _____, ('02b). New plants from Missouri. *Ibid.* 79-80. 1902.
_____, _____, ('05). New plants from Missouri. *Ann. Rept. Mo. Bot. Gard.* 16: 102-108. 1905.
Marbut, C. F. ('04a). Geology and physiography in the state of Missouri. pp. 63-70. Columbia, 1904.
_____, ('04b). Physiography of Ozark region in Missouri. Abstract in *Science N. S.* 19: 527. 1904.
_____, ('10). A preliminary report on the general character of the soils and agriculture of the Missouri Ozarks. *Mo. Agr. Exp. Sta. Res. Bull.* 3: 151-273. 1910.
_____, ('11). Soil reconnaissance of the Ozark region of Missouri and Arkansas. U. S. Dept. Agr. Bur. Soils Rept. 13: 1727-1875 (especially pages 1842-1844, 1864-1865, and discussion of vegetation in connection with soils). 1911.
Maximilian, Prince of Wied neu-Wied, (1843). Systematic view of plants collected on a tour on the Missouri River. London, 1843.
Metcalfe, F. P. ('22). Notes on marsh and aquatic plants of Missouri. *Jour. Wash. Acad. Sci.* 12: 307-312. 1922.
Mische, E. ('95). Notes from the Missouri Botanical Garden. *Garden and Forest* 8: 497. 1895.
Nolen, J. H. ('13). Missouri's swamp and overflowed lands. *Rept. to 47th Mo. Gen. Assembly*. 141 pp. 1913.
Nuttall, T. (1813). Fraser's Catalogue.—A catalogue of new and interesting plants, collected in Upper Louisiana and principally on the Missouri River, North America. London, 1813. [Reprinted in *Pittonia* 2: 114-119. 1889-92].
_____, (1821). Journal of travels into the Arkansas Territory during the year 1819. Philadelphia, 1821. [In Thwaites, *Early Western Travels* 13: 27-366. 1905].
Palmer, E. J. ('10). Flora of the Grand Falls Chert Barrens. *Trans. Acad. Sci. St. Louis* 10: 97-112. 1910.

- _____, ('16). Catalogue of plants of Jasper Co., Mo. Ann. Mo. Bot. Gard. 3: 345-401. 1916.
- _____, ('22). Forest flora of the Ozark region. Jour. Arn. Arb. 3: 216-232. 1922.
- _____, ('25). Synopsis of North American Crataegi. Ibid. 6: 5-128. 1925.
- _____, ('26). Leaves from a collector's note book. Ibid. 7: 136-145. 1926.
- _____, ('31). Conspectus of the genus Amorpha. Ibid. 12: 157-197. pl. 36, and figs. 1931.
- _____, ('32). Leaves from a collector's note book. Ibid. 13: 417-437. 1932.
- _____, ('34). *Quercus ellipsoidalis* in Missouri. Ibid. 15: 89. 1934.
- Pammel, L. H. ('11). Poisonous and medicinal plants of Missouri. Mo. State Bd. Hort. Bull. 14: 46 pp. 1911.
- Pech, F. ('66). Catalogue of the United States plants in the Department of Agriculture. 1866.
- Pursh, F. (1814). Flora Americanae Septentrionalis. London, 1814.
- Record, S. J. ('10). Forest conditions of the Ozark region of Missouri. Mo. Agr. Exp. Sta. Bull. 89: 195-280. 1910.
- Rehder, A. ('11). Trees and shrubs 2: 141-143. (Notes on *Malus*). 1911.
- _____, ('13). Ibid. 229-232. 1913.
- Rickett, H. W. ('28). A list of plants from the Missouri Ozarks. Am. Midl. Nat. 11: 243-254. 1928.
- _____, ('31a). Flora of Columbia, Missouri. Univ. Mo. Stud. Sci. Ser. 6: 1-84. 1931.
- _____, ('31b). Notes on the vegetation of Columbia, Missouri. Am. Midl. Nat. 12: 411-419. 1931.
- _____, ('34a). *Cornus amomum* and *C. candidissima*. Rhodora 36: 269-274. 1934.
- _____, ('34b). Specimens collected by Bradbury in Missouri Territory. Roy. Bot. Gard. Kew, Bull. Misc. Inf. 1934: 49-61. 1934.
- Riddell, J. L. (1835). Synopsis of the flora of the western states. 16 pp. Cincinnati, 1835. [Review by L. H. Bailey in Bot. Gaz. 8: 269-271. 1883.]
- Robbins, W. J. ('21). Precipitation and the growth of oaks at Columbia, Missouri. Mo. Agr. Exp. Sta. Res. Bull. 44: 19 pp. 1921.
- Rydberg, P. A. ('30). Taxonomic notes on the flora of the prairies and plains of central North America. Brittonia 1: 79-104. 1930.
- _____, ('32). Flora of the prairies and plains of central North America. New York, 1932.
- Saeger, A. C. ('29). The flowering of Lemnaceae. Bull. Torr. Bot. Club 56: 351-358. 1929.
- _____, ('34). *Spirodela oligorrhiza* collected in Missouri. Ibid. 61: 233-236. 1934.
- Sargent, C. S. ('84-86). Botanical papers of George Engelmann. Bot. Gaz. 9: 69-74. 1884; 11: 192, 286. 1886.
- _____, ('84). Report on the forests of North America (exclusive of Mexico). U. S. Census Rept. (Missouri) 10: 560-561. Washington, 1884.
- _____, ('03). Trees and shrubs 1: 57, pl. 29 (*Crataegus Palmeri*); 63-65, pl. 32-33 (*Crataegus Treleasei* and *C. speciosa*); 109, pl. 55 (*Crataegus disjuncta*); 113, pl. 57 (*Crataegus lanuginosa*); 117, pl. 59 (*Crataegus Kelloggii*). 1903.

- , ('05). Manual of trees of North America. 1905.
- , ('07-'13). Trees and shrubs 2: 3-13, pls. 102, 103, 104, 105, 106, 107 (*Crataegus incisa*, *C. ludoviciana*, *C. rubicundula*, *C. Neo-Bushii*, *C. trianthophora*, *C. mollisca*): 59-61, pls. 127, 128 (*Crataegus severa*, *C. villiflora*); 65-69, pls. 130, 131, 132 (*Crataegus lanceolata*, *C. aspera*, *C. magnifolia*); 75-77, pls. 135, 136 (*Crataegus padifolia*, *C. mollisca*); 137, pl. 156 (*Hamamelis vernalis*); 206-209 (Notes on hickories); 239-245 (*Crataegus seclusa*, *C. tumida*, *C. scabra*); 247, pl. 192 (*Prunus Palmeri*); 261-262 Notes on *Aesculus*. 1907-1913.
- , ('08). *Crataegus* in Missouri. Ann. Rept. Mo. Bot. Gard. 19: 35-126. 1908.
- , ('11). *Ibid.* 22: 67-97. 1911.
- , ('18). Notes on North American Trees. I. *Quercus*. Bot. Gaz. 65: 423-459; II. *Carya*. *Ibid.* 66: 229-258; III. *Tilia*. *Ibid.* 421-438, 494, 504-507. 1918.
- , ('20-'22). Notes on North American trees. VI. *Jour. Arn. Arb.* 1: 253. 1920; VIII. *Ibid.* 2: 164-174. 1921; IX. *Ibid.* 3: 5, 7; X. *Ibid.* 182-183. 1922.
- , ('25). Notes on *Crataegus*. *Ibid.* 6: 4-5. 1925.
- Sauer, C. O. ('20). The geography of the Ozark highland of Missouri. Bull. Geogr. Soc. Chicago 7: 52-59. 1920.
- Schoolcraft, H. R. (1819). View of the lead mines of Missouri. 294 pp. New York, 1819.
- , (1821). Journal of a tour into the interior of Missouri and Arkansaw. 102 pp. London, 1821.
- , ('53). Scenes and adventures into the semi-alpine region of Ozark Mountains of Missouri and Arkansas, etc. Philadelphia, 1853.
- , ('55). Summary narrative of an exploratory expedition to the sources of the Mississippi River in 1820. Philadelphia, 1855.
- Scott, I. T. ('34). Woody plants of Missouri [mimeographed]. State Resources Mus. Bull. 7. 1934.
- Seavey, F. C. ('97). Uncultivated crops in the Ozark Mountains. Garden and Forest 10: 465-466. 1897.
- Shannon, J. I. Manuscript list of plants from St. Louis Co., collected in 1905-6. 8 pp. [in Mo. Bot. Gard. library].
- Shepard, E. M. ('93). Manuscript list of the plants of Greene County, Missouri. 1893.
- , ('05). The New Madrid earthquake. *Jour. Geol.* 13: 45-62. 1905.
- Sherff, E. E. ('12). A new variety of *Rudbeckia subtomentosa*. *Rhodora* 14: 164. 1912.
- Shirling, A. S. Manual of Kansas City trees. Kansas City Teachers' Training School Bull. 4: 4 pp.
- Small, J. K. ('96). Studies in the botany of the southeastern United States, XV. (*Oxalis Bushii*). *Bull. Torr. Bot. Club* 25: 611. 1896.
- Spaulding, P. ('08). A biographical history of botany at St. Louis, Missouri. [Baldwin, Beck, Bradbury, James, Lewis, Michaux]. *Pop. Sci. Month.* 73: 488-490. 1908.

- _____, ('09). *Ibid.* II. [Drummond, Maximilian, Nuttall]; *Ibid.* 74: 48-57; III. [Engelmann, Geyer, Hilgard, Riehl]; *Ibid.* 124-133; IV. [Eggert, Fendler, Glatfelter, Harris, Hedgecock, Hua, Irish, James, Kellogg, Letterman, Murtfeldt, Nelson, Norton, Pammel, Riley, Shaw, Spaulding, Thompson, Trelease, von Schrenk, Webber, Wislizenus]. *Ibid.* 240-258. 1909.
- Starr, F. ('98). Academy of Natural Science of St. Louis. *Ibid.* 52: 629-647. 1898.
- Steyermark, J. A. ('31a). Notes on Missouri plants found on certain geological formations. *Mo. Bot. Gard. Bull.* 19: 52-56. 1931.
- _____, ('31b). Some new and interesting plants from Missouri. *Ibid.* 56-57. 1931.
- _____, ('31c). A study of plant distribution in relation to the acidity of various soils in Missouri. *Ann. Mo. Bot. Gard.* 18: 41-55. 1931.
- _____, ('33). Notes on Missouri plants. *Rhodora* 35: 283-291. 1933.
- _____, ('34a). *Epifagus virginiana* in Missouri. *Ibid.* 36: 352-353. 1934.
- _____, ('34b). A grass new to Missouri. *Ibid.* 313-314. 1934.
- _____, ('34c). *Hamamelis virginiana* in Missouri. *Ibid.* 97-100. 1934.
- _____, ('34d). Recent additions to the flora of St. Louis County, Missouri. *Ibid.* 375-376. 1935.
- _____, ('34e). Some features of the flora of the Ozark region in Missouri. *Ibid.* 214-233. 1934.
- Sullivan, K. C. ('28). A survey of the animal and plant life of the Niangua River and of the Bennett Spring Branch at Bennett Springs State Park in Missouri. State Game and Fish Dept., Leaflet Hatchery Div. pp. 1-14. 1928.
- Swallow, G. C. ('55). Catalogue of the trees and shrubs of Missouri. *Ann. Rept. Mo. Geol. Surv.* 3: 221-226. Appendix C. 1855.
- _____, ('58). Grape culture in Missouri. *Trans. Acad. Sci. St. Louis* 1: 156-168. 1858.
- _____, ('59). Geological report of the country along the line of the southwestern branch of the Pacific Railroad, St. Louis. 93 pp. 1859.
- _____, ('67). Trees, shrubs, and vines of Missouri. Rept. to 1st Mo. Gen. Assembly. 112 pp.; and *Ann. Rept. State Bd. Agr.* 2: 78-96. 1867.
- Torrey, J. (1845). Catalogue of plants collected by Charles Geyer, under the direction of I. N. Nicollet, during his exploration of the region between the Mississippi and Missouri rivers. *Rept. 28th Congress, 2nd session, House Doc.* 52: 143-165. 1845.
- Tracy, S. M. ('86). Catalogue of the phaenogamous and vascular cryptogamous plants of Missouri. 106 pp. Jefferson City, 1886; and *Ann. Rept. Mo. State Bd. Agr.* 18: 397-500. 1885.
- _____, and Broadhead, G. C. ('86). Distribution of plants in Missouri. 1886.
- Trelease, W. ('85). Blooming times for flowers. *Science Almanac.* 5-7. 1885.
- _____, ('95). *Leitzneria floridana*. *Ann. Rept. Mo. Bot. Gard.* 6: 65-90. 1895.
- _____, ('97). The swamps of southeastern Missouri. *Garden and Forest* 10: 370-371. 1897.
- _____, ('98). The Missouri dogbanes. *Ann. Rept. Mo. Bot. Gard.* 9: 147. 1898.

- _____, ('03). The Academy of Science of St. Louis. Pop. Sci. Month. 64: 117-130. 1903.
- _____, and Gray, A. ('87). The botanical works of the late George Engelmann. 548 pp. Cambridge, 1887.
- Turner, J. A. ('31). A new plant for Missouri. Mo. Bot. Gard. Bull. 19: 121. 1931.
- Ulrich, A. G. ('34). New or noteworthy plants for St. Louis. VI. The native spider lily. *Ibid.* 22: 199. 1934.
- Uphof, J. C. ('21). Das Vorkommen von *Neviusia alabamensis* im süden von Missouri. Deut. Dendrol. Ges. 1921: 282-283. fig. 1921.
- _____, ('22). Ecological relations of plants in southeastern Missouri. Am. Jour. Bot. 9: 1-17. 1922.
- von Schrenk, H. ('98). The trees of St. Louis as influenced by the tornado of 1896. Trans. Acad. Sci. St. Louis 8: 25-41. 1898.
- Waddell, E. ('29). Posies (wild flowers) in "Ozarks." [Booklet sponsored by Springfield Lions Club]. 1929.
- Ward, L. F. ('78). St. Louis and Botany. Field and Forest 3: 1878.
- Whelpley, H. ('06). Sketch of history of Academy of Science of St. Louis. Trans. Acad. Sci. St. Louis 16: 15-99. 1906.
- White, C. A. ('96). George Engelmann. Biogr. Mem. Nat. Acad. Sci. 4: 3-21. 1896.
- Whitney, J. D. ('76). Plain, prairie, and forest. Am. Nat. 10: 577-588, 656-667. 1876.
- Whitten, J. C. ('94). Phenological notes for 1892 and 1893. Ann. Rept. Mo. Bot. Gard. 5: 123-135. 1894.
- Wight, W. F. ('15). Native American species of *Prunus*. U. S. Dept. Agr. Bull. 179: 73 pp. 1915.
- Williams, W. ('04). The State of Missouri. 229-240. Columbia, 1904.
- Woodson, R. E., Jr. ('30). The dogbane: roadside weed and future staple. Mo. Bot. Gard. Bull. 18: 87-104. 1930.
- _____, ('32). The most interesting tree in Missouri. *Ibid.* 20: 145-149. 1932.

ANNOTATED LIST OF MISSOURI PLANTS

SPERMATOPHYTA

Fam. PINACEAE

Pinus echinata Mill. Southern Yellow Pine.

Dry uplands, rocky slopes and bluffs, and sometimes alluvial woods along streams, in sandstone, chert, granitic or porphyritic trachyte areas, in mixed growth with deciduous trees or locally in pure stands. Oxylophilic. Southern Mo., south of a line from Franklin to McDonald counties: Franklin, Jefferson, Washington, Ste. Genevieve, Perry, Bollinger, Madison, Wayne, St. Francois, Butler, Iron, Reynolds, Shannon, Carter, Ripley, Oregon, Howell, Crawford, Texas, Dent, Phelps, Pulaski, Wright, Douglas, Ozark, Taney, Stone, Christian, Barry, and McDonald counties.

The Austrian pine, *Pinus nigra* Arnold, has been found locally established in woods in St. Louis Co., and the scrub pine, *Pinus virginiana* Mill., has been found in woods and open slopes in Callaway Co. The Scotch pine, *Pinus sylvestris* L., and the white pine, *Pinus Strobus* L., are often planted but do not appear to establish themselves away from cultivation, and should not be considered as additions to the state flora.

Taxodium distichum (L.) Richard. Bald Cypress.

Swamps, bayous, and flood plains of streams. Oxylophile to circumneutral. Southeastern Mo.: Cape Girardeau, Bollinger, Scott, Mississippi, Stoddard, New Madrid, Pemiscot, Dunklin, Butler, and Ripley counties.

Juniperus virginiana L. Red Cedar.

Glades, bluffs, and borders of woods, on limestone or dolomite, and rarely on siliceous or granitic rocks. Calciphile to circumneutral. General, but commonest in the Ozark region.

Juniperus virginiana var. *crebra* Fernald & Griscom, Rh. 37: 133. 1935.

Borders of woods and glades or bluffs. Circumneutral. Eastern Mo.: Lewis and Jefferson counties.

Juniperus mexicana Spreng. White Cedar.

Juniperus Ashei Buchholz, Bot. Gaz. 90: 329, figs. 1, 2. 1930.

Juniperus sabinaoides Nees.

Glades and dolomite bluffs of White River. Calciphile. Southwestern Mo.: Barry Co.

Fam. TYPHACEAE

***Typha latifolia* L. Common Cat-tail.**

Swamps and muddy margins of ponds and streams. Circumneutral. General.

***Typha angustifolia* L. Narrow-leaved Cat-tail.**

Muddy borders and in shallow water of saline spring-fed lake. Calciphile. Local: Saline Co. This has often been confused with narrow-leaved and slender-spiked forms of *T. latifolia*.

Fam. SPARGANIACEAE

***Sparganium eurycarpum* Engelm. Bur-reed.**

Swamps and borders of ponds and streams. Circumneutral. General but not common: St. Charles, St. Louis, Clay, and Jackson counties.

***Sparganium americanum* Nutt. See Rh. 24: 27, 33. 1922. Bur-reed.**

Sparganium androcladum of auth., not Morong (B & B).

Sparganium americanum var. *androcladum* Fernald & Eames, not *S. simplex* var. *androcladum* Engelm. (G).

In spring branches and margins of streams and swales. Circumneutral to calciphile. Southern and central Mo.: St. Louis, Jefferson, St. Francois, Bollinger, Ripley, New Madrid, Dunklin, Reynolds, Carter, Phelps, Dent, Shannon, Texas, Howell, Camden, Jackson, Greene, Jasper, and Newton counties.

Sparganium androcladum (Engelm.) Morong. See Rh. 24: 27, 32. 1922. Bur-reed.

Sparganium lucidum Fernald & Eames (G), (B & B).

Borders of ponds and swales. Circumneutral. Southern and central Mo.: St. Louis, Jefferson, Iron, St. Francois, Scott, Dunklin, Boone, Cass, Greene, and Jackson counties.

Fam. NAJADACEAE

Potamogeton pulcher Tuckerm. Spotted Pondweed.

Slow streams and ponds. Circumneutral. Eastern Mo., south of the Missouri River: St. Louis, Jefferson, Franklin, Dent, Texas, Shannon, Iron, and Ripley counties. This species has sometimes been confused with *Potamogeton natans* which is not known in Mo.

Potamogeton amplifolius Tuckerm. Large-leaved Pondweed.

Sloughs, streams, ponds, spring branches, and in lakes fed by cold springs. Circumneutral. Southern and central Mo.: Dallas, Morgan, Camden, Howell, Texas, Douglas, and Ozark counties.

Potamogeton illinoensis Morong.

Sloughs and slow waters along streams. Circumneutral. Southeastern Mo., local: Ripley Co. This species has sometimes been confused with *Potamogeton americanus*, a common species in Mo.

Potamogeton americanus Cham. & Schlecht. Long-leaved Pondweed.

Ponds and rivers. Circumneutral. Southern and central Mo.: St. Louis, Jefferson, Franklin, St. Francois, Iron, New Madrid, Dunklin, Ripley, Gasconade, Osage, Pulaski, Camden, Miller, Laclede, Taney, Jackson, Jasper, and Newton counties.

Potamogeton lucens L. Shining Pondweed.

Slow-flowing streams, springs, and spring branches, and in lakes fed by cold springs. Circumneutral to calciphile. Southeastern and middle Mo.: Perry, Iron, Wayne, Dunklin, Reynolds, Shannon, Carter, Pulaski, and Laclede counties.

POTAMOGETON CRISPUS L. Curly Muck-weed.

Ponds, sloughs, and lakes fed by cold springs. Circumneutral. Southern Mo.: Crawford and Newton counties.

Potamogeton foliosus Raf. var. *genuinus* Fernald, Mem. Am. Acad. 17: 43. 1932.

Streams, springs, and ponds. Circumneutral to calciphile. General: St. Louis, Wayne, Butler, Shannon, Carter, Reynolds, Oregon, Howell, Macon, Boone, Morgan, Camden, Pulaski, Laclede, Dallas, Wright, Greene, Christian, Ozark, Douglas, Platte, Clay, Jackson, Bates, Jasper, and Barry counties.

Potamogeton foliosus var. *macellus* Fernald, Mem. Am. Acad. 17: 46. 1932.

Potamogeton foliosus Raf. in part (G).

Similar situations to the preceding. Circumneutral to calciphile. Southern, central, and western Mo.: St. Louis, Butler, Crawford, Reynolds, Boone, Miller, Laclede, Howell, Platte, Bates, Jasper, and Christian counties.

Potamogeton panormitanus Bivona-Bernardi var. *major* G. Fischer.

Slow streams and ponds. Circumneutral. Middle Mo., local: Benton Co.

Potamogeton panormitanus var. minor Biv.

Slow streams. Circumneutral. Southern Mo.: Perry and Laclede counties.

Potamogeton diversifolium Raf. See Mem. Am. Acad. 17: 105-106. 1932. Pond-weed.

Potamogeton dimorphus of Am. auth. in part, not Raf. (G), (B & B).

Potamogeton Spirillus of Am. auth. in part, not Tuckerm.

Potamogeton hybridus of Am. auth. in part, not Michx. (G).

Streams and ponds. Circumneutral. General: Scotland, Monroe, Audrain, Callaway, St. Louis, Bollinger, Wayne, Butler, Dent, Shannon, Oregon, Caldwell, Ray, Clay, Jackson, Henry, Greene, Wright, Webster, Ozark, Taney, and Jasper counties.

Potamogeton pectinatus L. Fennel-leaved Pondweed.

Ponds and streams. Calciphile to circumneutral. General but scattered: St. Louis, Perry, Ripley, Osage, Phelps, Saline, Atchison, Buchanan, and Platte counties.

Potamogeton rotundatus Hgst.

Ponds and slow streams. Circumneutral. Local: St. Louis Co.

Najas guadalupensis (Spreng.) Morong. See Rh. 25: 107. 1923. Naiad.

Marshes and shallow water of streams. Circumneutral. Central and southern Mo.: St. Louis, St. Francois, Iron, Reynolds, Ripley, Phelps, Dent, Shannon, Texas, Boone, Laclede, Greene, Platte, Jackson, and Vernon counties.

Zannichellia palustris L. Horned Pondweed.

Marshy and springy ground, and in ponds and shallow streams, frequently in saline marshes and springs. Calciphile to circumneutral. General but scattered: Clark, St. Louis, Jefferson, Perry, Randolph, Cooper, Saline, Marion, Miller, Dent, Reynolds, Carter, Oregon, Texas, Crawford, Laclede, Dallas, Jackson, and Newton counties.

Euppia maritima L. var. rostrata Agardh. Ditch-grass.

Ponds and shallow streams. Local: Henry Co.

Fam. ALISMACEAE

Sagittaria longirostra (M. Michel) J. G. Smith. Long-beaked Arrow-head.

Scattered and uncommon: Henry and Jasper counties.

All of the Missouri species of *Sagittaria* are found in shallow water or on muddy borders of sloughs, ponds, and sluggish streams, most frequently in circumneutral or alkaline soils.

Sagittaria latifolia Willd. Broad-leaved Arrow-head.

General and common.

Sagittaria latifolia f. obtusa (Muhl.) Robinson.

Frequent with the typical form. General.

Sagittaria brevirostra Mack. & Bush. Short-beaked Arrow-head.

General and common.

Sagittaria ambigua J. G. Smith. Lance-leaved Sagittaria.

Southwestern Mo.: Barton, Jasper, and Newton counties.

Sagittaria heterophylla Pursh.

Scattered: Callaway, Boone, Jackson, Dent, Texas, Howell, Wright, Ozark, Webster, and Greene counties.

Sagittaria heterophylla var. *elliptica* Engelm.

Scattered: St. Louis and Boone counties.

Sagittaria heterophylla var. *angustifolia* Engelm.

Scattered: Greene and Texas counties.

Sagittaria graminea Michx. Grass-leaved Sagittaria.

General but scattered: St. Louis, Butler, Texas, Carroll, Jackson, Jasper, Lawrence, Greene, and Taney counties.

Sagittaria platyphylla (Engelm.) J. G. Smith.

Southeastern Mo.: Dunklin and Butler counties.

Lophotocarpus calycinus (Engelm.) J. G. Smith.

Shallow water and muddy margins of sloughs, ponds, and sluggish streams. Calciphile to circumneutral. General.

Echinodorus tenellus (Martius) Buchenau. Bur-head.

Wet ground about ponds and sloughs. Circumneutral. Local: St. Louis Co.

Echinodorus cordifolius (L.) Griseb. Bur-head.

Swamps and muddy banks. Circumneutral. Scattered, mostly along the larger rivers: Lincoln, St. Louis, Franklin, Mississippi, Ripley, and Jackson counties.

Echinodorus cordifolius var. *lanceolatus* (Engelm.) Mack. & Bush.

Similar situations to the preceding. Circumneutral. Scattered: Clay and Jackson counties.

Echinodorus radicans (Nutt.) Engelm. Creeping Bur-head.

Swamps and wet woods. Circumneutral. Southeastern Mo., and north along Mississippi River: St. Louis, Jefferson, Stoddard, New Madrid, Dunklin, and Butler counties.

Alisma subcordatum Raf. See Arkiv f. Bot. 24A: 19. 1932. Water Plantain.

Alisma Plantago-aquatica of Am. auth. in part, not L. (G).

Swamps and muddy borders of sloughs, ponds, and sluggish streams. Circumneutral. General. This has been confused with *Alisma Plantago-aquatica* and subsp. *brevipes* (as defined by Samuelsson) which do not occur in Mo.

Vallisneria americana Michx. See Rh. 20: 108. 1918. Eel-grass.

Vallisneria spiralis of Am. auth., not L. (G), (B & B).

Slow streams. Circumneutral. Eastern Mo., south of the Missouri River: St. Louis, Jefferson, Franklin, Gasconade, Phelps, Iron, Butler, Carter, and Ripley counties.

Fam. HYDROCHARITACEAE

Anacharis occidentalis (Pursh) Victorin, Contr. Lab. Bot. Univ. Montreal, No. 18: 40. 1931; see also Rh. 34: 114-116. 1932. Water-weed.

Eldes canadensis Michx. in part (G).

Philotria canadensis (Michx.) Britton in part (B & B).

Ponds, pools, and sloughs, on the surface of stagnant water, in springs and spring branches, and margins of streams. Circumneutral to calciphile. South-

ern and central Mo.: Boone, Lincoln, St. Charles, St. Louis, Jefferson, Crawford, Madison, Reynolds, Carter, Butler, Dunklin, Ripley, Oregon, Shannon, Texas, Osage, Cole, Miller, Phelps, Pulaski, Dallas, Camden, Laclede, Wright, Douglas, Ozark, Jackson, and Jasper counties.

Limnobium Spongia (Bosc) Richard. American Frog-bit.

Streams and sloughs. Circumneutral. Southeastern Mo., local: Dunklin Co.

Fam. GRAMINEAE

Arundinaria gigantea (Walt.) Chapm. See Am. Jour. Bot. 21: 127. 1934; also Bull. Torr. Bot. Club 56: 315-318. 1920. Switch Cane, Giant Cane.

Arundinaria macrosterna Michx. (G), (B & B), in part.

Arundinaria tecta (Walt.) Muhl. (G), (B & B), in part.

Low wet woods and moist ground along bluffs. Circumneutral. Southern Mo., mostly in the southeastern lowlands and along White River and its tributaries: Bollinger, Cape Girardeau, Scott, Mississippi, Stoddard, New Madrid, Pemiscot, Dunklin, Butler, Wayne, Ripley, Carter, Reynolds, Oregon, Shannon, Howell, Douglas, Ozark, Taney, Stone, Barry, and McDonald counties.

Bromus breviristatus Buckley.

Introduced in Jackson Co.

Bromus catharticus Vahl. See Am. Jour. Bot. 21: 127. 1934.

Bromus unioloides (Willd.) HBK. (B & B).

Waste ground. Western Mo., local: Jackson Co.

BROMUS INERMIS Leyss. Hungarian Brome Grass.

Introduced in fields, waste ground, and roadsides. Scattered: St. Louis, Boone, Jackson, and McDonald counties.

BROMUS TECTORUM L.

Introduced in fields and waste ground. Indifferent. General.

Bromus purgans L. Wild Chess.

Rocky or rich woods and bluffs. Circumneutral to calciphile. General.

Bromus latiglumis (Scribn.) Hitchc. See Rh. 35: 316. 1933.

Bromus purgans var. *latiglumis* (Scribn.) Shear.

Bromus altissimus Pursh, not Gilib. (G).

Woods and bluffs. Calciphile. Eastern Mo.: Clark, St. Louis, and Jefferson counties.

Bromus latiglumis f. *incanus* (Shear) Fernald, Rh. 35: 316. 1933.

Bromus altissimus f. *incanus* (Shear) Wiegand.

Bromus incanus (Shear) Hitehe. (G), (B & B).

Wooded banks. Calciphile. Western Mo.: Jackson Co.

BROMUS SECALINUS L. Chess, Cheat.

Fields and waste ground. Indifferent. General.

BROMUS MOLLIS L. See Am. Jour. Bot. 21: 128. 1934. Soft Chess.

Bromus hordeaceus of auth., not L. (G), (B & B).

Introduced in waste ground and along railways. Scattered: St. Louis and Jackson counties.

BROMUS RACEMOSUS L. See Rh. 24: 90. 1922.

Introduced along roadsides, railways, and in waste ground. Indifferent. Scattered: St. Louis, Jackson, Vernon, and Jasper counties.

BROMUS COMMUTATUS Schrad. See Rh. 24: 90. 1922.

Introduced in fields and waste ground. Indifferent. Scattered: Iron, Boone, Clay, Jackson, Webster, and Jasper counties.

BROMUS ARvensis L. Field Chess.

Introduced in fields and waste ground. Indifferent. Scattered: Lewis, Audrain, Jefferson, Boone, Dekalb, Jackson, and Jasper counties.

BROMUS JAPONICUS Thunb.

Introduced in fields, waste ground, and roadsides. Indifferent. Scattered: Boone and Jackson counties.

Festuca octoflora Walt. Slender Fescue Grass.

Fields, prairies, glades, rocky open or dry woods, and waste ground. Oxylophile. Southern and central Mo. south and east of a line drawn from St. Louis and Morgan counties to Vernon Co.

Festuca octoflora var. *tenella* (Willd.) Fernald, Rh. 34: 209. 1932.

Similar situations to the preceding. Oxylophile. General and common. This is the commonest variety found in Mo.

Festuca octoflora var. *glaucia* (Nutt.) Fernald, Rh. 34: 209. 1932.

Similar situations to the preceding. Oxylophile. Southern and central Mo. south and east of a line drawn from St. Louis, Callaway, and Morgan counties to Vernon Co.

Festuca scirea Nutt.

Rocky or sandy open ground. Oxylophile to circumneutral. Southern Mo., scattered: Dunklin and Jasper counties.

FESTUCA ELATIOR L. Meadow Fescue.

Meadows, open woods, and waste ground. Circumneutral. General.

Festuca obtusa Spreng.

Festuca nutans Spreng. (G), (B & B).

Rocky or rich woods, bluffs, alluvial ground along streams, and waste ground. Circumneutral. General.

Festuca Shortii Kunth.

Moist open ground and woods. Circumneutral. General but scattered: Clark, St. Louis, Jefferson, Dent, Shannon, Boone, Jackson, and Jasper counties.

Glyceria acutiflora Torr.

Margins of ponds, in shallow water. Circumneutral. Southern Mo.: Dent, Texas, Howell, Wright, Webster, and Ozark counties.

Glyceria arkansana Fernald, Rh. 31: 49. 1929.

Swampy ground. Circumneutral. Southeastern Mo.: Dunklin, Butler, and Ripley counties.

Glyceria septentrionalis Hitchc. Floating Manna Grass.

Borders of sloughs, wet open woods, and meadows. Circumneutral. Northern and central Mo.: Scotland, St. Louis, Jefferson, Livingston, and Jackson counties.

Glyceria pallida (Torr.) Trin. Pale Manna Grass.

Swampy ground. Circumneutral. Southeastern Mo.: Scott and Butler counties.

Glyceria striata (Lam.) Hitchc. Proc. Biol. Soc. Wash. 41: 157. 1928. Fowl Meadow Grass.

Glyceria nervata (Willd.) Trin. (G).

Panicularia nervata (Willd.) Kuntze (B & B).

Sloughs, bogs, wet woods, and meadows. Circumneutral. General.

POA ANNUA L. Low Spear Grass, Annual Blue Grass.

Fields, gardens, and waste ground. Indifferent. General and common.

Poa Chapmanniana Scribn.

Prairies, glades, and waste ground. Circumneutral. Central and southern Mo.: St. Louis, Jefferson, Dent, St. Francois, Shannon, Texas, Boone, Jackson, Polk, Greene, Christian, Douglas, Ozark, Stone, Jasper, and Newton counties.

POA COMPRESSA L. Canada Blue Grass, English Blue Grass.

Fields and rocky waste ground. Indifferent. General.

Poa nemoralis L.

Introduced along railroads. Jackson Co.

Poa pratensis L. Kentucky Blue Grass.

Fields, meadows, glades, open woods, and waste ground. Circumneutral to calciphile. General and common.

Poa palustris L. See Rh. 18: 235. 1916.

Poa triflora Gilib. (G), (B & B).

Wet places and open ground. Circumneutral. Scattered: St. Louis, Ste. Genevieve, and Jackson counties.

Poa sylvestris Gray.

Rich or alluvial woods. Circumneutral. General.

Poa Wolfii Scribn.

Rocky woods, moist ledges, and along streams. Calciphile to circumneutral. Central and southern Mo.: Franklin, Shannon, Texas, Boone, Jackson, Jasper, McDonald, Taney, and Stone counties.

Eragrostis hypnoides (Lam.) BSP. See Rh. 28: 114. 1926. Creeping Love Grass.

Wet alluvial river banks and margins of sloughs and ponds. Circumneutral. General.

Eragrostis reptans (Michx.) Nees. See Rh. 28: 114-115. 1926.

Eragrostis Weigeltiana (Reichenb.) Bush (B & B).

Moist alluvial ground along the Missouri River. Circumneutral. Western Mo., local: Jackson Co.

Eragrostis capillaris (L.) Nees. Love Grass.

Fields, clearings, rocky ledges, glades, and waste ground. Indifferent. General and common.

Eragrostis Frankii (Fisch., Mey. & Lall.) Steud.

Waste alluvial and cultivated ground. Circumneutral. General.

Eragrostis cilianensis (All.) Link ex Lutati, *Malpighia* 18: 386. 1904; see Hitchcock, *Man. Grasses U. S. Misc. Publ. U. S. Dept. Agr.* 200: 154. 1935.

Eragrostis megastachya (Koeler) Link (G).

Eragrostis major Host (B & B).

Waste and cultivated ground. Indifferent. General.

Eragrostis poaeoides (L.) Beauv. See Hitchcock, *Man. Grasses U. S. Misc. Publ. U. S. Dept. Agr.* 200: 156. 1935.

Eragrostis minor Host (G), (B & B).

Waste ground. Indifferent. Introduced in Stone Co.

Eragrostis pilosa (L.) Beauv. Indian Love Grass.

Moist banks, rocky open or alluvial or waste ground. Indifferent. General.

Eragrostis pectinacea (Michx.) Nees. See Hitchcock, *Man. Grasses U. S. Misc. Publ. U. S. Dept. Agr.* 200: 151. 1935.

Eragrostis caroliniana (Spreng.) Seribn.

Eragrostis Purshii Schrad. (B & B).

Alluvial or open ground along streams and waste places. Indifferent. General.

Eragrostis diffusa Buckl. See Hitchcock, *Man. Grasses U. S. Misc. Publ. U. S. Dept. Agr.* 200: 151. 1935.

Open ground. Introduced in Jackson Co.

Eragrostis hirsuta (Michx.) Nees.

Open ground. Circumneutral. Southwestern Mo.: Jasper Co.

Eragrostis intermedia Hitchc. *Jour. Wash. Acad. Sci.* 23: 450. 1933.

Prairies and open ground. Circumneutral. Western Mo., scattered: Jackson and Newton counties. This has been confused with *Eragrostis lugens* which does not reach Missouri.

Eragrostis spectabilis (Pursh) Steud. See Hitchcock, *Man. Grasses U. S. Misc. Publ. U. S. Dept. Agr.* 200: 163-164. 1935. Purple Love Grass.

Eragrostis pectinacea of Am. auth., not Michx. (G), (B & B).

Eragrostis pectinacea var. *spectabilis* Gray (G).

Sandy or rocky open or waste ground. Oxyophile to circumneutral. General and common.

Eragrostis trichodes (Nutt.) Nash.

Moist open, sandy or rocky ground. Oxyophile. Central and southern Mo.: Ste. Genevieve, Dent, Ozark, Carroll, and Jackson counties.

Diarina festucoides Raf.

Diarrhena diandra (Michx.) Wood (G), (B & B).

Diarrhena americana Beauv.

Low, rich or alluvial woods and river banks. Circumneutral. General but scattered: St. Louis, Jefferson, Franklin, Shannon, Boone, Camden, Gentry, Clinton, Clay, Jackson, Hickory, Jasper, McDonald, Stone, and Taney counties.

Distichlis stricta (Torr.) Rydb. Salt Grass, Alkali Grass.

Along railroads and waste ground. Indifferent. Western Mo.: introduced in Buchanan and Jackson counties.

Uniola latifolia Michx. Spike Grass.

Rocky woods, bluffs, moist thickets and alluvial or rich low woods. Circumneutral to calciphile. General.

DACTYLIS GLOMERATA L. Orchard Grass.

Fields, waste ground, and roadsides. Indifferent, General.

ARUNDO DONAX L. Giant Reed.

Open ground. Escaped from cultivation in Dunklin Co.

Phragmites communis Trin. var. *Berlandieri* (Fournier) Fernald, Rh. 34: 211. 1932. Reed.

Phragmites communis of Am. auth. in part (G), (B & B).

Low ground along streams and ponds. Circumneutral. Northern and west-central Mo.: Macon, Nodaway, Platte, Clay, Jackson, Lafayette, Saline, and Bates counties.

Melica Porteri Scribn.

Rocky wooded bluffs. Calciphile. Western Mo., local: Jackson Co.

Melica mutica Walt. Melic Grass.

Rocky woods and bluffs. Calciphile. General: St. Louis, Jefferson, Madison, Iron, Wayne, Carter, Shannon, Texas, Miller, Hickory, Callaway, Mercer, Dekalb, Jackson, and Jasper counties.

Melica nitens Nutt. Melic Grass.

Rocky woods, glades, and bluffs. Calciphile. General but scattered: St. Louis, Jefferson, Wayne, Oregon, Boone, Camden, Gentry, Clinton, Clay, Jackson, Hickory, Jasper, McDonald, Stone, and Taney counties.

Triodia flava (L.) Smyth. See Hitchcock, Man. Grasses U. S. Misc. Publ. U. S. Dept. Agr. 200: 213, 969. 1935. Tall Red Top, Purple Top.

Tridens flavus (L.) Hitchc. (G), (B & B).

Tricuspidia flava (L.) Hubbard.

Open woods, meadows, glades, and waste ground. Circumneutral. General.

Triodia stricta (Nutt.) Benth. See Hitchcock, Man. Grasses U. S. Misc. Publ. U. S. Dept. Agr. 200: 215 and 971. 1935.

Tridens strictus (Nutt.) Nash (G), (B & B).

Tricuspidia stricta (Nutt.) Gray.

Prairies and moist open ground. Circumneutral to oxylophile. Southern Mo.: Mississippi, Dunklin, Butler, Dade, Barton, Jasper, and Newton counties.

Triodia elongata (Buckl.) Scribn. See Hitchcock, Man. Grasses U. S. Misc. Publ. U. S. Dept. Agr. 200: 217, 968. 1935.

Tridens elongatus (Buckl.) Nash (B & B).

Tricuspidia elongata (Buckl.) Heller.

Rocky bluffs and glades. Calciphile. Southwestern Mo.: Henry, Barry, and McDonald counties.

Triplasis purpurea (Walt.) Chapm. Sand Grass.

Sandy open ground. Oxylophile. Central and southeastern Mo.: St. Louis, Jefferson, Dunklin, and Jackson counties.

AGROPYRON REPENS (L.) Beauv. var. *SUBULATUM* (Scribn.) Reichenb. See Rh. 35: 183-184. 1933. Quitch Grass, Couch Grass, Quack Grass.

Introduced in fields and waste ground. Indifferent. General.

Agropyron Smithii Rydb. Blue-joint.

Prairies, fields, and waste ground. Indifferent. General but scattered.

Agropyron trachycaulum (Link) Steud. var. *typicum* Fernald, Rh. 35: 169. 1933.

Awned Wheat Grass.

Agropyron tenerum Vasey (G), (B & B).

Agropyron caninum var. *tenerum* (Vasey) Pease & Moore.

Introduced in fields and waste ground. Indifferent. Scattered in western Mo.: Jackson and Jasper counties. This has been confused with *Agropyron pseudorepens* which does not occur in Mo.

AEGILOPS CYLINDRICA Host.

Triticum Aegilops Beauv.

Triticum cylindricum Ces., Pass. & Gib.

Introduced along railroad. Jackson Co.

Elymus glaucus Buckley. Blue Wild Rye.

Elymus Mackensii Bush.

Rocky wooded bluffs. Calciphile. Southwestern Mo.: Jasper, Barry, and Ozark counties. This has been confused with *Elymus Macounii* which does not reach Mo.

Elymus villosus Muhl. See Rh. 35: 195. 1933.

Elymus striatus of Am. auth., not Willd. (G), (B & B).

Open or rocky woods and prairies. Circumneutral to calciphile. General.

Elymus villosus f. *arkansanus* (Scribn. & Ball) Fernald, Rh. 35: 195. 1933.

Elymus striatus var. *arkansanus* (Scribn. & Ball) Hitchc. (G).

Elymus arkansanus Scribn. & Ball (B & B).

Rocky woods. Circumneutral to calciphile. Southern Mo.: Oregon, Greene, Barry, and Jasper counties.

Elymus canadensis L. See Rh. 35: 191. 1933. Nodding Wild Rye.

Elymus robustus var. *vestitus* Wiegand.

Rocky woods and prairies, and waste ground. Circumneutral. General.

Elymus canadensis f. *glaucifolius* (Muhl.) Fernald, Rh. 35: 191. 1933.

Elymus glaucifolius Muhl.

Elymus glaucifolius var. *robustus* (Scribn. & Sm.) Bush.

Elymus glaucifolius var. *crescendus* (Ramaley) Bush.

Elymus robustus Scribn. & Sm. (G).

Rocky open woods, alluvial ground, prairies, and waste places. Circumneutral. General.

Elymus virginicus L. See Rh. 35: 198. 1933. Wild Rye.

Elymus striatus Willd., but not of most recent authors.

Alluvial ground, open woods, and prairies. Circumneutral. General.

Elymus virginicus f. *hirsutiglumis* (Scribn.) Fernald, Rh. 35: 198. 1933.

Elymus virginicus var. *hirsutiglumis* (Scribn.) Hitchc. (G).

Elymus hirsutiglumis Scribn. (B & B).

Open woods and prairies. Circumneutral. General but scattered.

Elymus virginicus var. *jejunus* (Ramaley) Bush, Am. Midl. Nat. 10: 65. 1926.

Elymus jejunus (Ramaley) Rydb. (B & B).

Fields, open woods, and waste ground. Circumneutral. General.

Elymus virginicus var. *submuticus* Hook.

Open woods. Circumneutral. Scattered: Jefferson, Oregon, and Jackson counties.

Elymus virginicus var. *glabriflorus* (Vasey) Bush, Am. Midl. Nat. 10: 62. 1926.

Elymus glabriflorus (Vasey) Scribn. & Ball (B & B).

Elymus australis var. *glabriflorus* (Vasey) Wiegand.

Open, rocky, rich or alluvial woods, and prairies. Circumneutral. General.

Elymus virginicus var. *glabriflorus* f. *australis* (Scribn. & Ball) Fernald. See Rh. 35: 198. 1935.

Elymus australis Scribn. & Ball (G), (B & B).

Rocky open woods and prairies. Circumneutral. Central and southern Mo.

Sitanion hystrix (Nutt.) J. G. Smith.

Sitanion longifolium J. G. Smith. (G).

Sitanion elymoides Raf. (B & B).

Introduced along railroads. Jackson Co.

Hystriz patula Moench. See Am. Jour. Bot. 21: 133-134. 1934. Bottle-brush.

Hystriz Hystriz (L.) Millsp. (B & B).

Open or rocky woods and dry open or waste ground. Circumneutral to oxylophile. General.

Hordeum jubatum L. Squirrel-tail Grass.

Fields, roadsides, and waste ground. Indifferent. General, except in the Ozark region, but commonest in northern Mo., where native, and probably introduced elsewhere.

Hordeum pusillum Nutt.

Cultivated and waste ground. Indifferent. General.

Hordeum nodosum L. Meadow Barley.

Dry open ground. Indifferent. Eastern Mo., scattered: St. Louis, Jefferson, Franklin, and Phelps counties.

HORDEUM VULGARE L. VAR. *TRIFURCATUM* (Schlecht.) Alefeld. Beardless Barley.

Waste ground. Indifferent. Introduced in Jackson Co.

LOLIUM PERENNE L. Perennial Rye Grass.

Introduced in fields, meadows, and waste ground. Indifferent. General.

LOLIUM MULTIFLORUM Lam. Italian Rye Grass.

Introduced in similar situations to the preceding, but less common. Indifferent. Scattered: Boone, Saline, and Jackson counties.

LOLIUM TEMULENTUM L. Darnel.

Introduced in fields and waste ground. Indifferent. Jackson Co.

Koeleria cristata (L.) Pers. Crested Hair Grass.

Prairies and fields. Circumneutral. General.

Sphenopholis obtusata (Michx.) Scribn. Early Bunch Grass.

Open rocky ground and bluffs. Circumneutral to calciphile. General.

Sphenopholis obtusata var. *pubescens* (Scribn. & Merr.) Scribn.

Rocky open ground. Scattered. Southern and east-central Mo.: St. Louis, Jefferson, Shannon, Scott, and Taney counties.

Sphenopholis obtusata var. *lobata* (Trin.) Scribn.

Occasionally found with the typical form.

Sphenopholis intermedia Rydb. See *Bartonia* 14: 34. 1932; also *Am. Jour. Bot.* 21: 134. 1934.

Sphenopholis pallens of auth., not *Aira pallens* Spreng.

Moist rocky open ground. Circumneutral. General.

Sphenopholis nitida (Spreng.) Scribn.

Rocky woods. Circumneutral. Southern Mo., scattered: Ste. Genevieve, Ripley, Reynolds, Carter, Douglas, and Wright counties.

Trisetum flavescens (L.) Beauv. Yellow False Oats.

Introduced along railroads. Jackson Co.

Avena sativa L. Oats.

Commonly escaped in waste ground and along railroads and roadsides. Indifferent. General.

Avena fatua L. Wild Oats.

Occasionally introduced in waste ground. Scattered.

Arrhenatherum elatius (L.) Beauv. Oat Grass.

Fields and waste ground. Introduced. Local: Jasper Co.

Holcus lanatus L. Velvet Grass.

Notholcus lanatus (L.) Nash (B & B).

Introduced along railroads. Jackson Co.

Danthonia spicata (L.) Beauv. Wild Oat Grass.

Rocky prairies, open woods, and glades. Oxylophile. General, but commonest in central and southern Mo.

Calamagrostis canadensis (Michx.) Nutt. var. *typica* Stebbins, Rh. 32: 40. 1930.

Blue-joint Grass.

Wet meadows and prairie swales. Circumneutral. Northern and central Mo.: Mercer, Schuyler, Linn, Ralls, St. Louis, Dekalb, and Jackson counties.

Calamagrostis canadensis var. *Macouniana* (Vasey) Stebbins, Rh. 32: 41. 1930.

Calamagrostis Macouniana Vasey (B & B).

Wet meadows. Circumneutral. Northern and central Mo.: Clark, Lewis, Ralls, Schuyler, Adair, Grundy, Harrison, and Jackson counties.

Calamagrostis inexpansa Gray var. *brevior* (Vasey) Stebbins, Rh. 32: 50. 1930.

Calamagrostis inexpansa Gray, in part (G), (B & B).

Low wet woods. Circumneutral. Rare and local. Southern and central Mo.: Jackson and Texas counties.

Calamovilfa longifolia (Hook.) Hack. Long-leaved Reed Grass.

Low sandy open ground. Oxylophile to circumneutral. Central Mo.: St. Louis, Jefferson, Clay, and Jackson counties.

Agrostis spica-venti L.

Apera spica-venti (L.) Beauv. (G), (B & B).

Waste ground. Introduced in Jackson Co.

Agrostis interrupta L.

Waste ground. Introduced in St. Louis Co.

AGROSTIS STOLONIFERA L. See Rh. 35: 317. 1933.

Agrostis alba of auth., not L. (G), (B & B).

Fields and waste ground. Indifferent. General and common.

AGROSTIS TENUIS Sibth.

Agrostis alba var. *vulgaris* (With.) Thurb. (G).

In similar situations to the preceding. Indifferent. General and common.

Agrostis Elliottiana Schultes.

Open sandy or cherty ground, sterile fields, prairies, and glades. Oxyophile. East-central and southern Mo.: Lincoln, Montgomery, St. Louis, Jefferson, St. Francois, Iron, Ste. Genevieve, Madison, Bollinger, Dunklin, Butler, Wayne, Shannon, Dent, Crawford, Washington, Phelps, Maries, Pulaski, Gasconade, Franklin, Texas, Miller, Laclede, Christian, Webster, Barry, Jasper, and McDonald counties.

Agrostis scabra Willd. See Rh. 35: 207. 1933. Hair Grass, Tickle Grass.

Agrostis hyemalis of auth., not Walt. (G), (B & B).

Fields, meadows, and open woods. Oxyophile to circumneutral. General.

Agrostis perennans (Walt.) Tuckerm. Thin Grass.

Fields, prairie swales, margins of streams and ponds, low or rich woods, and moist open ground. Circumneutral. General.

Agrostis perennans var. *aestivalis* Vasey. See Rh. 35: 318. 1933.

Agrostis Schweinitzii Trin. (B & B).

Wooded banks, slopes, rich shaded woods, and along streams. Circumneutral. General.

Cinna arundinacea L. Wood Reed Grass.

Wet woods and meadows. Circumneutral. General.

ALOPECURUS PRATENSIS L. Meadow Fox-tail Grass.

Fields, meadows, and waste ground. Indifferent. Scattered: St. Louis and Boone counties.

Alopecurus carolinianus Walt. See Am. Jour. Bot. 21: 136. 1934.

Alopecurus geniculatus of auth., not L. (G), (B & B).

Alopecurus geniculatus L. var. *ramosus* (Poir.) St. John, Rh. 18: 167. 1917.

Meadows, waste ground, borders of ponds, sloughs, wet ground, and wet depressions in rocky glades. Circumneutral to calciphile. General. Typical *A. geniculatus* does not reach Mo. This species is much commoner than the next following.

Alopecurus aequalis Sobol. See Rh. 27: 196. 1925. Floating Fox-tail Grass.

Alopecurus geniculatus var. *aristulatus* (Michx.) Torr. (G).

Alopecurus aristulatus Michx. (B & B).

Swampy ground, borders of ponds and sloughs, and wet open ground. Circumneutral. General.

PHLEUM PRATENSE L. Timothy.

Meadows, roadsides, and waste ground. Circumneutral. General.

Muhlenbergia cuspidata (Torr.) Rydb. See Rh. 18: 233. 1916.

Sporobolus brevifolius (Nutt.) Scribn., in part (G).

Dry banks, rocky bluffs, and loess hills. Circumneutral to calciphile. Western

and southern Mo.: Crawford, Phelps, Pulaski, Miller, Camden, Atchison, Holt, Buchanan, Jackson, Henry, and McDonald counties.

Muhlenbergia asperifolia (Nees & Meyen) Parodi. See Hitchcock, Man. Grasses U. S. Misc. Publ. U. S. Dept. Agr. 200: 366. 1935. Scratch Grass.

Sporobolus asperifolius (Nees & Meyen) Thurber (B & B).

Moist sandy ground. Oxylophile. Western Mo.: Holt and Jackson counties.

Muhlenbergia sobolifera (Muhl.) Trin.

Rocky woods, shaded slopes, limestone bluffs, and prairies. Calciphile to circumneutral. General.

Muhlenbergia tenuiflora (Willd.) BSP.

Open rocky woods, glades, dry open soils, and prairies. Oxylophile to circumneutral. General.

Muhlenbergia racemosa (Michx.) BSP.

Moist prairies, alluvial banks, meadows, and open woods. Circumneutral. General.

Muhlenbergia mexicana (L.) Trin. Satin Grass.

Rocky banks and moist woods. Circumneutral. General.

Muhlenbergia mexicana f. *commutata* (Scribn.) Wiegand, Rh. 26: 1. 1924.

In similar situations to the typical form. Local: Lincoln Co.

Muhlenbergia glabriflora Scribn.

Moist open ground. Circumneutral. Local: St. Louis Co.

Muhlenbergia sylvatica Torr. See Rh. 32: 118. 1930.

Muhlenbergia umbrosa Scribn.

Moist rocky woods and slopes along streams. Circumneutral. General.

Muhlenbergia sylvatica f. *attenuata* (Scribn.) Palmer & Steyermark, comb. nov.

Muhlenbergia umbrosa f. *attenuata* (Scribn.) Deam, Publ. Indiana Dept. Conserv. 82: 171. 1929.

Occasionally found in similar situations to the preceding. Scattered: Gentry, St. Louis, and Greene counties.

Muhlenbergia foliosa Trin.

Thickets and open woods, and moist ground. Circumneutral. Western Mo.: Jackson and Jasper counties.

Muhlenbergia Schreberi J. F. Gmel. Drop-seed Grass, Nimble Will.

Moist open and waste ground; often about dwellings. Circumneutral. General.

Muhlenbergia curtisetosa (Scribn.) Bush.

Muhlenbergia Schreberi var. *curtisetosa* Scribn.

Rocky ground. Circumneutral. Southwestern Mo.: Barry Co.

Muhlenbergia brachyphylla Bush, Am. Midl. Nat. 6: 41. 1919.

Prairie banks and low moist woods. Circumneutral. Southwestern Mo.: Barton and Jasper counties.

Muhlenbergia capillaris (Lam.) Trin. Hair Grass.

Dry open ground and cherty woods. Oxylophile. Southern Mo.: Shannon, Ozark, Taney, Henry, Barry, Greene, Jasper, Newton, and McDonald counties.

Muhlenbergia expansa (DC.) Trin. See Hitchcock, Man. Grasses U. S. Misc. Publ. U. S. Dept. Agr. 200: 386. 1935.

Muhlenbergia trichopodes (Ell.) Chapm.

Dry rocky ground. Circumneutral. Southwestern Mo., local: McDonald Co.

SPOROBOLUS POIRETII Roem. & Schult. See Bartonia 14: 32. 1932, and Am. Jour. Bot. 21: 136. 1934. Smut Grass.

Sporobolus Berteroanus (Trin.) Hitchc. & Chase.

Sporobolus indicus of auth., not R. Br. (G).

Introduced in cotton fields. Circumneutral. Southeastern Mo.: Dunklin Co.

Sporobolus vaginiflorus (Torr.) Wood.

Prairies, fields, and waste places, sterile soils. Oxyophile. General.

Sporobolus neglectus Nash.

Rocky open woods, glades, fields, and waste places. Oxyophile to circumneutral. General but scattered: St. Louis, Jefferson, Shannon, Montgomery, Boone, Macon, Jackson, Henry, Jasper, Barry, Stone, and Ozark counties.

Sporobolus ozarkanus Fernald, Rh. 25: 109. 1933.

Chert glades. Oxyophile. Southwestern Mo., local: Jasper Co.

Sporobolus asper (Michx.) Kunth. Bush Grass.

Dry prairies, rocky open woods and glades, and waste ground. Oxyophile to circumneutral. General but scattered: St. Louis, Franklin, Macon, Sullivan, Boone, Cooper, Henry, Caldwell, Jackson, Jasper, and Newton counties.

Sporobolus asper var. *pilosus* (Vasey) Hitchc. Proc. Biol. Soc. Wash. 41: 161. 1928.

Sporobolus pilosus Vasey (B & B).

Rocky open ground. Oxyophile. Southern Mo.: Jefferson, Washington, Iron, Jasper, and Barry counties.

Sporobolus asper var. *Hookeri* (Trin.) Vasey. See Hitchcock, Man. Grasses U. S. Misc. Publ. U. S. Dept. Agr. 200: 398, 958. 1935.

Sporobolus Drummondii (Trin.) Vasey (B & B).

Sporobolus attenuatus Nash (B & B).

Rocky open woods, glades, and prairies. Oxyophile to circumneutral. Central, western, and southern Mo.: St. Louis, Phelps, Jackson, Caldwell, and Jasper counties.

Sporobolus clandestinus (Spreng.) Hitchc.

Sporobolus canovirens Nash (G), (B & B).

Rocky open woods, glades, open ground, and prairies. Oxyophile. East-central and southern Mo.: Lincoln, Boone, Montgomery, Warren, St. Louis, Jefferson, Ste. Genevieve, St. Francois, Washington, Crawford, Iron, Scott, Dunklin, Phelps, Dent, Shannon, Ozark, Taney, Barry, Jasper, Newton, and McDonald counties.

Sporobolus heterolepis Gray. Dropseed Grass.

Prairies, glades, and rocky cliffs. Calciphile to circumneutral. General, though apparently absent from much of the southwestern part: Clark, Lewis, Marion, Ralls, Pike, St. Louis, Jefferson, Washington, St. Francois, Madison, Iron, Reynolds, Carter, Shannon, Texas, Dent, Phelps, Maries, Pulaski, Calaway, Shelby, Schuyler, Randolph, Macon, Linn, Sullivan, Worth, Daviess, Dekalb, Clinton, Caldwell, Jackson, Johnson, Henry, and Taney counties.

Sporobolus argutus (Nees) Kunth.

Dry open ground. Introduced in Jackson Co.

Sporobolus cryptandrus (Torr.) Gray. Sand Dropseed.

Dry or moist open ground, usually in sandy soil, and loess mounds, also introduced along railroads. Oxylophile. Central and western Mo., mostly along the larger rivers: St. Louis, Jefferson, Montgomery, Boone, Moniteau, Atchison, Holt, Andrew, Buchanan, Clay, and Jackson counties.

Sporobolus airoides Torr. Alkali Sacaton.

Loess hills. Calciphile. Northwestern Mo.: Atchison Co., and also introduced in Jackson Co.

HELECHLOA SCHOENOIDES (L.) Host.

Introduced in meadows. Local: St. Louis Co.

Brachyelytrum erectum (Schreb.) Beauv.

Rocky woods and bluffs. Circumneutral to calciphile. General, but commonest in southern Mo.

Oryzopsis racemosa (Sm.) Ricker. Black-seeded Mountain Rice.

Woods. Circumneutral. Eastern Mo., local: Clark and Shannon counties.

Stipa spartea Trin. Porcupine Grass.

Dry rocky prairies. Oxylophile. Northern and western Mo., uncommon: Macon, Adair, Schuyler, Mercer, Daviess, Dekalb, Nodaway, Jackson, Barton, and Jasper counties. Also reported from Greene Co.

Aristida basiramea Engelm. Triple-awned Grass.

Dry open ground. Oxylophile. Central Mo., local: Montgomery and Jackson counties.

Aristida dichotoma Michx. Poverty Grass.

Dry prairies, glades, open upland woods, and waste ground. Oxylophile. General and common.

Aristida Curtissii (Gray) Nash. See Contr. U. S. Nat. Herb. 22: 535-536. 1924.*Aristida dichotoma* var. *Curtissii* Gray (G).

In similar situations to the preceding. Oxylophile. Central and southern Mo.: St. Louis, Jefferson, Madison, Crawford, Montgomery, Polk, Barry, and Newton counties.

Aristida oligantha Michx. Triple-awned Grass.

Dry open ground, glades, sterile fields, and waste ground. Oxylophile. General.

Aristida ramosissima Engelm. Branching Poverty Grass.

Dry prairies, glades, and sterile soils. Oxylophile. Central and southern Mo.: St. Louis, St. Francois, Dunklin, Butler, and Greene counties.

Aristida longespica Poir. See Contr. U. S. Nat. Herb. 22: 538-539. 1924.*Aristida gracilis* Ell. (G), (B & B).

Rocky prairies, glades, sterile fields, and waste ground. Oxylophile. Eastern, central, and southern Mo.: Marion, St. Louis, Jefferson, St. Francois, Ste. Genevieve, Dunklin, Dent, Boone, Cooper, Jackson, Greene, Barry, Jasper, and McDonald counties.

Aristida adscensionis L. See Contr. U. S. Nat. Herb. 22: 541-545. 1924.
Aristida fasciculata Torr. (B & B).

Aristida bromoides HBK.

Upland prairies and sterile open ground. Oxylophile. Central and southern Mo.: Maries, Madison, Jackson, and Jasper counties.

Aristida intermedia Scribn. & Ball.

Dry rocky woods, glades, and sterile prairies. Oxylophile. Central and southern Mo.: St. Louis, Washington, Iron, Jackson, and Jasper counties.

Aristida lanosa Muhl.

Sandy open ground. Oxylophile. Southeastern Mo., local: Stoddard Co.

Aristida purpurascens Poir.

Rocky open woods, glades, and open ground. Oxylophile. Central and southern Mo.: Lincoln, St. Louis, Jefferson, Ste. Genevieve, Madison, Scott, Stoddard, Dunklin, Crawford, Dent, Shannon, Montgomery, Polk, Henry, Ozark, Taney, Barry, Jasper, Newton, and McDonald counties.

Leptochloa filiformis (Lam.) Beauv. Red Sprangle Top.

Leptochloa attenuata (Nutt.) Steud. (B & B).

Leptochloa mucronata Kunth.

Fields, low cultivated ground, and alluvial ground along the larger rivers. Circumneutral. Central and southern Mo.: St. Charles, St. Louis, Jefferson, Perry, Mississippi, Dunklin, Butler, Ripley, Crawford, Carroll, Jackson, Greene, Ozark, Taney, Vernon, Barton, Jasper, and Newton counties.

Diplachne acuminata Nash.

Wet open ground along the Missouri River, and wet soil about saline springs. Calciphile to circumneutral. Western Mo.: Atchison, Holt, Jackson, Carroll, Saline, Randolph, Howard, Cooper, and Jackson counties.

Diplachne fascicularis (Lam.) Beauv.

Leptochloa fascicularis (Lam.) Gray (G).

Wet open ground along the larger streams, saline springs, and depressions in rocky glades. Calciphile to circumneutral. Central and southern Mo.: St. Louis, Jefferson, New Madrid, Ripley, Randolph, Saline, Carroll, Clinton, Holt, Buchanan, Clay, Jackson, Greene, Jasper, and Newton counties.

ELEUSINE INDICA (L.) Gaertn. Goose Grass, Yard Grass.

Waste and cultivated ground. Indifferent. General and common.

CYNODON DACTYLON (L.) Pers. Bermuda Grass.

Open, waste, sandy, and cultivated ground. Oxylophile to circumneutral. Central and southern Mo.: St. Charles, St. Louis, Jefferson, Mississippi, Dunklin, Butler, Boone, Jackson, Vernon, and Jasper counties.

Schedonnardus paniculatus (Nutt.) Trel. Tumble Grass.

Dry open woods, prairies, glades, and waste ground. Oxylophile to circumneutral. Middle and western Mo.: Boone, Andrew, Wright, Greene, Jackson, Jasper, and Newton counties.

Beckmannia Syzigachne (Steud.) Fernald, Rh. 30: 27. 1928. American Slough Grass.

Beckmannia erucaeformis of Am. auth. in part, not Host (G), (B & B).

Wet open ground. Introduced in Jackson Co.

Spartina pectinata Link, See Rh. 35: 258-260. 1933. Slough Grass.

Spartina Michauxiana Hitchc. in part (G).

Wet meadows, sloughs, and margins of ponds. Circumneutral to calciphile. General.

Spartina pectinata var. *Suttkesi* (Farwell) Fernald, Rh. 35: 260. 1933.

Commonly found with the typical form but more frequent.

Gymnopogon ambiguus (Michx.) BSP.

Rocky open woods, sandy open places, and glades. Oxylophile. Southern and east-central Mo.: St. Charles, Jefferson, Scott, Stoddard, Shannon, Dent, Crawford, Jasper, Newton, and McDonald counties.

Chloris verticillata Nutt. Windmill Grass.

Upland prairies and waste ground; introduced from farther west. Middle and western Mo.: Boone, Jackson, and Jasper counties.

Chloris virgata Sw.

Chloris elegans HBK. (G), (B & B).

Introduced in Jackson Co.

Bouteloua curtipendula (Michx.) Torr.

Rocky open woods and glades. Circumneutral to calciphile. General.

Bouteloua gracilis (HBK.) Lag. See Contr. U. S. Nat. Herb. 14*: 375. 1912. Mesquite Grass, Blue Grama.

Bouteloua oligostachya (Nutt.) Torr. (G), (B & B).

Upland prairies and loess hills. Circumneutral to calciphile. Western Mo.: Atchison, Holt, and Jackson counties.

Bouteloua hirsuta Lag. Hairy Mesquite Grass, Hairy Gramma.

Loess hills. Calciphile. Northwestern Mo.: Atchison and Holt counties.

Buchloe dactyloides (Nutt.) Engelm. Buffalo Grass.

Loess hills. Calciphile. Northwestern Mo.: Atchison and Holt counties, and also introduced in Jackson Co.

ANTHOXANTHUM ODORATUM L. Sweet Vernal Grass.

Introduced along railroad: Jackson Co., and also reported from St. Louis Co.

PHALARIS CANARIENSIS L. Canary Grass.

Waste ground, and along railroads and roadsides. Indifferent. Scattered: St. Louis, Madison, Jackson, and Jasper counties.

Phalaris arundinacea L. Reed Canary Grass.

Wet meadows and ditches along roadsides. Circumneutral. Northern and western Mo., uncommon: Macon, Holt, Andrew, Clay, and Jackson counties.

Phalaris caroliniana Walt. Canary Grass.

Moist open ground. Circumneutral. Central and southern Mo., scattered and uncommon: Scott, Dunklin, Butler, Jackson, Johnson, Greene, and Jasper counties.

Leersia lenticularis Michx. Catch-fly Grass.

Wooded swamps and borders of bayous and streams. Circumneutral. General, but commonest in southern Mo.: Lincoln, St. Louis, Jefferson, Mississippi, New Madrid, Dunklin, Butler, Clinton, and Jasper counties.

Leersia oryzoides (L.) Sw. Rice Cut Grass.

Swamps and wet meadows. Circumneutral. General.

Leersia virginica Willd. Cut Grass, White Grass.

Swamps, wet woods, and low meadows. Circumneutral. General.

Zizania aquatica L. var. *interior* Fassett, Rh. 26: 158. 1924. Water Rice, Indian Rice.

Swamps and borders of ponds and streams. Circumneutral. Scattered and uncommon: St. Charles, New Madrid, Dunklin, Butler, Clay, Jackson, Greene, and Newton counties.

Zizaniopsis miliacea (Michx.) Döll. & Asch.

Swampy ground and borders of ditches. Circumneutral. Southeastern Mo.: Pemiscot and Dunklin counties.

DIGITARIA SANGUINALIS (L.) Scop. Crab Grass, Finger Grass.

Waste and cultivated ground. Often a troublesome weed. Indifferent. General.

DIGITARIA SANGUINALIS var. *MARGINATA* (Link) Fernald, Rh. 22: 103. 1920.

Syntherisma marginata (Link) Nash (B & B).

Occasionally found with the typical form. Scattered: Dunklin Co.

DIGITARIA ISCHAEMUM Schreb. See Rh. 18: 231. 1916. Small Crab Grass.

Digitaria humifusa Pers. (G).

Syntherisma linearis (Krock.) Nash (B & B).

Waste and cultivated ground. Indifferent. General.

Digitaria filiformis (L.) Koeler. Slender Finger Grass.

Prairies, glades, and sandy fields. Oxyophile to circumneutral. Central and southern Mo.: Boone, Gasconade, Dent, Maries, Madison, Jackson, Jasper, Newton, McDonald, and Stone counties.

Digitaria filiformis var. *villosa* (Walt.) Fernald, Rh. 36: 19-20. 1934.

Digitaria villosa (Walt.) Ell. (G).

Prairies and glades. Oxyophile. Southern and east-central Mo.: St. Louis, St. Francois, Iron, Dunklin, Jasper, and McDonald counties.

Leptoloma cognatum (Schultes) Chase. Fall Witch Grass.

Prairies, glades, and waste ground. Oxyophile. General.

Eriochloa contracta Hitchc. Dotted Millet, Prairie Cup Grass.

Eriochloa punctata of auth., not Hamilton (G), (B & B).

Introduced in cultivated and waste ground. Uncommon. Circumneutral. Boone and Jackson counties.

Paspalum repens Bergius. See Contr. U. S. Nat. Herb. 28: 31-32. 1929.

Paspalum mucronatum Muhl. (G), (B & B).

Wet alluvial ground along streams and margins of ponds and lakes. Circumneutral. Eastern, central, and southern Mo.: Marion, St. Louis, Jefferson, New Madrid, Dunklin, Butler, Howell, Chariton, Jackson, Johnson, Vernon, Jasper, and Barry counties.

Paspalum dissectum L.

Muddy banks of streams and ditches. Circumneutral to oxyophile. Southern Mo., scattered: Dunklin and Jasper counties.

Paspalum ciliatifolium Michx.

Prairies and borders of woods. Oxyophile to circumneutral. Southwestern Mo.: Jasper Co.

Paspalum ciliatifolium var. *stramineum* (Nash) Fernald, Rh. 36: 20. 1934.

Paspalum stramineum Nash (G), (B & B).

Paspalum Bushii Nash (G).

Prairies and open woods. Oxylophile. General: Putnam, Jefferson, Dent, Pemiscot, Dunklin, Clay, Jackson, and Polk counties.

Paspalum ciliatifolium var. *Muhlenbergii* (Nash) Fernald, Rh. 36: 20. 1934.

Paspalum Muhlenbergii Nash (G), (B & B).

Paspalum pubescens Muhl. (G), (B & B).

Prairies, rocky banks, and open woods. Oxylophile to circumneutral. General: Putnam, Warren, St. Louis, Jefferson, Franklin, Ste. Genevieve, St. Francois, Mississippi, Pemiscot, Dunklin, Oregon, Pulaski, Boone, Saline, Jackson, Barton, Jasper, and Greene counties.

Paspalum floridanum Michx.

Moist meadows and prairie swales. Oxylophile to circumneutral. Southern Mo.: Mississippi, Barton, and Jasper counties.

Paspalum pubiflorum Rupr. var. *glabrum* Vasey. See Rh. 36: 22. 1934.

Paspalum laeviglume Scribn. (G), (B & B).

Moist open ground, meadows, and prairie swales; sometimes a weed in waste ground. Circumneutral. Southern Mo.: Jefferson, Ste. Genevieve, Dunklin, Butler, Taney, Jasper, and McDonald counties.

Paspalum laeve Michx. var. *circulare* (Nash) Stone. See Rh. 36: 22. 1934.

Paspalum circulare Nash (G), (B & B).

Prairies, fields, and moist open ground. Circumneutral to oxylophile. Central and southern Mo.: Lincoln, St. Louis, Jefferson, Scott, Mississippi, New Madrid, Dunklin, Butler, Randolph, Boone, Callaway, Dent, Shannon, Oregon, Texas, Howell, Wright, Greene, Jackson, Barton, Jasper, and McDonald counties.

Paspalum laeve var. *pilosum* Scribn. See Rh. 36: 22. 1934.

Paspalum plenipilum Nash (G), (B & B).

Paspalum praelongum Nash.

Low ground, and borders of lakes and bayous. Circumneutral. Southern Mo., scattered: New Madrid and Wright counties.

Panicum depauperatum Muhl. See Rh. 23: 194. 1921.

Prairies, glades, open sterile woods, and waste ground. Oxylophile. General, but commonest in central and southern Mo.: Schuyler, Lincoln, St. Louis, Jefferson, St. Francois, Ste. Genevieve, Bollinger, Wayne, Shannon, Ripley, Greene, Wright, Webster, Ozark, Stone, Jasper, Newton, and McDonald counties.

Panicum perlongum Nash.

Rocky prairies, glades, and open woods, chiefly in chert, gravel, or sand. Oxylophile. General.

Panicum linearifolium Scribn.

Prairies, glades, and rocky open woods. Oxylophile. General.

Panicum linearifolium var. *Wernerii* (Scribn.) Fernald, Rh. 23: 194. 1921.

Panicum Wernerii Scribn. (G), (B & B).

Rocky prairies, glades, and open woods. Oxylophile. Southern Mo.: Ste. Genevieve, St. Francois, Iron, Ozark, Douglas, Webster, Christian, Taney, and Jasper counties.

Panicum xalapense HBK.

Low woods and wet rocky or sandy banks. Oxyophile to circumneutral. Central and southern Mo.: Boone, St. Louis, Franklin, Jefferson, St. Francois, Ste. Genevieve, Bollinger, Iron, Wayne, Dunklin, Ripley, Texas, Douglas, Taney, Stone, and McDonald counties.

Panicum Bicknellii Nash. See Contr. U. S. Nat. Herb. 15: 177. 1910.

Panicum Bushii Nash (B & B).

Dry rocky woods and prairies. Oxyophile to circumneutral. Southern Mo.: Dent, Wayne, Bates, Christian, Barry, and McDonald counties.

Panicum microcarpon Muhl.

Wet woods and low open ground. Oxyophile to circumneutral. Southern Mo.: St. Francois, Madison, Jefferson, Ste. Genevieve, Perry, Bollinger, Dunklin, Pemiscot, Butler, Ripley, Barry, and McDonald counties.

Panicum nitidum Lam.

Low wet ground. Circumneutral. Southeastern Mo.: Carter Co. (according to Hitchcock & Chase).

Panicum annulum Ashe.

Dry woods. Oxyophile to circumneutral. Southeastern Mo.: Carter Co.

Panicum dichotomum L.

Rocky open woods. Oxyophile. Southern and east-central Mo.: Warren, St. Louis, Jefferson, St. Francois, Madison, Bollinger, Iron, Dunklin, Wayne, Ripley, Oregon, Crawford, Dent, Shannon, Texas, Miller, Morgan, Laclede, Hickory, Douglas, Taney, Greene, Barry, and Jasper counties.

Panicum barbulatum Michx.

Rocky open woods and glades. Oxyophile. Southern Mo.: Jefferson, Ste. Genevieve, Perry, Bollinger, Wayne, Iron, Dunklin, Ripley, Carter, Shannon, Oregon, Gasconade, Texas, Howell, Christian, Taney, Barry, and McDonald counties.

Panicum spretum Schult.

Alluvial woods, prairies, and sandy open ground. Circumneutral. Southern Mo.: New Madrid and Jasper counties.

Panicum lanuginosum Ell. var. *Lindheimeri* (Nash) Fernald, Rh. 36: 77. 1934.

Panicum Lindheimeri Nash (G), (B & B).

Sandy or sterile woods and prairies. Oxyophile to circumneutral. General.

Panicum lanuginosum var. *septentrionale* Fernald, Rh. 36: 77. 1934.

Panicum tennesseense Ashe, in part (G), (B & B).

Panicum Lindheimeri var. *septentrionale* (Fern.) Fernald, Rh. 23: 227. 1922.

Dry open woods and barrens. Oxyophile. Central and southern Mo.: Boone, Miller, Madison, Shannon, and Taney counties.

Panicum lanuginosum var. *fasciculatum* (Torr.) Fernald, Rh. 36: 77. 1934.

Panicum huachucae Ashe (G), (B & B).

Panicum tennesseense Ashe, in part (G), (B & B).

Panicum huachucae var. *silvicola* Hitchc. & Chase (G).

Panicum Lindheimeri var. *fasciculatum* (Torr.) Fernald, Rh. 23: 228. 1922.

Dry open woods. Oxyophile to circumneutral. General.

Panicum lanuginosum var. *implicatum* (Scribn.) Fernald, Rh. 36: 77. 1934.

Panicum implicatum Scribn. (G), (B & B).

Panicum Lindheimeri var. *implicatum* (Scribn.) Fernald, Rh. 23: 228. 1922.

Wet woods and prairie swales. Oxyophile to circumneutral. Eastern, central, and southern Mo.: Schuyler, Knox, Boone, St. Louis, Jefferson, Ste. Genevieve, Dent, Shannon, Hickory, Polk, and Jasper counties.

Panicum subvillosum Ashe.

Dry rocky woods. Oxyophile. Southwestern Mo.: Jasper and Newton counties.

Panicum praecocius Hitchc. & Chase.

Dry open woods, prairies, glades, and thickets. Oxyophile to circumneutral. General.

Panicum villosissimum Nash.

Dry open woods and thickets, usually in cherty, sandy, or granitic soils. Oxyophile. East-central and southern Mo.: Montgomery, Warren, St. Louis, Jefferson, Dunklin, Ripley, Carter, Crawford, Shannon, Texas, Christian, Barry, and McDonald counties.

Panicum sphaerocarpon Ell.

Dry open woods, glades and prairies, and alluvial or moist ground along streams, and thickets, usually in rocky or sandy ground. Oxyophile. Central and southern Mo.: Lincoln, St. Louis, Jefferson, Franklin, Washington, Ste. Genevieve, Perry, Bollinger, St. Francois, Madison, Iron, Dent, Shannon, Carter, Phelps, Texas, Morgan, Douglas, Ozark, Taney, Boone, Hickory, Polk, St. Clair, Cedar, Jackson, Jasper, Newton, McDonald, and Barry counties.

Panicum sphaerocarpon var. *infiatum* (Scribn. & Smith) Hitchc. Rh. 13: 68. 1911.

Moist sandy open ground. Oxyophile. Southeastern Mo.: Shannon Co.

Panicum polyanthes Schultes.

Low wet woods, banks of streams, and prairie swales. Oxyophile to circumneutral. Eastern and middle Mo.: Lincoln, St. Charles, St. Louis, Franklin, Ste. Genevieve, Perry, Bollinger, Iron, Mississippi, Dunklin, Butler, Ripley, Crawford, Boone, and Phelps counties.

Panicum malacophyllum Nash.

Open sandy woods. Oxyophile. Local: Johnson and Jasper counties.

Panicum oligosanthes Schultes var. *Scribnorianum* (Nash) Fernald, Rh. 36: 80. 1934.

Panicum Scribnorianum Nash (G), (B & B).

Dry open woods, barrens, rocky banks, and dry prairies. Oxyophile. General.

Panicum oligosanthes var. *Helleri* (Nash) Fernald, Rh. 36: 80. 1934.

Panicum Helleri Nash (B & B).

Rocky open woods and prairies. Oxyophile. Western Mo.: Jackson, Jasper, Newton, and McDonald counties.

Panicum Ravenelii Scribn. & Merr.

Dry ground. Circumneutral to oxyophile. Southern Mo.: Ste. Genevieve, Bollinger, Dent, Shannon, Ripley, Texas, Polk, Cedar, Taney, Barry, and McDonald counties.

Panicum Leibergii (Vasey) Scribn.

Prairies and open woods. Circumneutral to oxylophile. Central and southern Mo.: St. Louis, Phelps, Shannon, and Jackson counties.

Panicum scorpiarium Lam.

Prairie swales and banks, chiefly on wet sands. Oxylophile. Southern Mo.: Mississippi, Howell, Henry, Vernon, Barton, and Jasper counties.

Panicum commutatum Schultes.

Open or alluvial rich woods and thickets. Circumneutral. Southern Mo.: Bollinger, Dunklin, Pemiscot, Butler, Ripley, Ste. Genevieve, Carter, Shannon, Taney, Stone, and McDonald counties.

Panicum commutatum var. *Ashei* (Pearson) Fernald, Rh. 36: 83. 1934.

Panicum Ashei Pearson (G), (B & B).

Dry open woods and rocky banks. Circumneutral to oxylophile. Southern Mo.: Ripley, Shannon, Texas, Douglas, Taney, Stone, Christian, and McDonald counties.

Panicum clandestinum L.

Open upland woods and thickets. Circumneutral to oxylophile. General.

Panicum latifolium L.

Rich or rocky woods and thickets. Circumneutral. General.

Panicum Bosci Poir.

Panicum Porterianum Nash.

Dry open woods and thickets. Circumneutral to oxylophile. General.

Panicum Bosci var. *molle* (Vasey) Hitchc. & Chase. See Contr. U. S. Nat. Herb. 15: 319-320. 1910.

Panicum pubifolium Nash.

In similar situations to the typical form. Southern Mo.: Shannon, Wright, Taney, Barry, and McDonald counties.

Panicum dichotomiflorum Michx.

Cultivated and waste ground, sometimes on glades and in alluvial soils, often a weed on dumps and ballast. Indifferent. General.

Panicum flexile (Gattinger) Scribn.

Glades and rocky open ground. Oxylophile to circumneutral. Central and southern Mo. and locally north in Gentry Co.: St. Louis, Jefferson, Franklin, Ste. Genevieve, Dunklin, Crawford, Dent, Reynolds, Shannon, Maries, Pulaski, Camden, Boone, Randolph, Jackson, Polk, Greene, Ozark, Taney, Barry, Jasper, McDonald, and Gentry counties.

Panicum Gattingeri Nash.

Dry rocky ground and barrens, and sometimes in wet ground along streams and sloughs, or as a weed in cultivated ground. Oxylophile to circumneutral, Central and southern Mo.: St. Louis, Jefferson, St. Francois, Wayne, Shannon, Boone, Jackson, Greene, Taney, Jasper, and McDonald counties.

Panicum philadelphicum Bernh.

Glades and rocky open ground. Circumneutral. Southern and east-central Mo.: St. Louis, Jefferson, St. Francois, Dent, Shannon, Wayne, Maries, Texas, Howell, Henry, Jasper, and Newton counties.

Panicum capillare L. Witch Grass.

Open cultivated, waste and alluvial ground. Indifferent. General and common.

Panicum capillare var. *occidentale* Rydb. See Rh. 21: 111. 1919.

Ocassionally found with the typical form: Putnam, Macon, Marion, Ralls, Pike, St. Louis, Cole, and Jackson counties.

PANICUM MILLACEUM L. Broom-corn Millet.

Sparingly escaped in cultivated and waste ground. Western Mo.: Jackson Co.

Panicum virgatum L. Switch Grass.

Prairie swales, wet open woods, moist glades and ledges, and gravel bars along streams. Indifferent. General.

Panicum agrostoides Spreng.

Wet prairies, open woods, and borders of sloughs and ponds. Circumneutral. Central and southern Mo.: Lincoln, St. Louis, St. Charles, Franklin, Jefferson, Stoddard, New Madrid, Dunklin, Butler, Wayne, Oregon, Shannon, Gasconade, Howell, Jackson, Vernon, Greene, and Jasper counties.

Panicum stipitatum Nash.

Panicum elongatum Pursh, not Salisb.

Wet banks. Circumneutral. Southeastern Mo.: Wayne, Shannon, and Dunklin counties.

Panicum anceps Michx.

Moist sandy ground, wet prairies, borders of streams, and low open woods. Oxylophilic. Central and southern Mo.: St. Louis, Jefferson, Franklin, St. Francois, Iron, Perry, Cape Girardeau, Scott, Dunklin, Butler, Ripley, Crawford, Shannon, Pulaski, Barton, Greene, and Jasper counties.

Panicum hians Ell. See Rh. 13: 67. 1911.

Steinchisma hians (Ell.) Nash (G), (B & B).

Swamps and wet woods. Oxylophilic. Southeastern Mo.: Dunklin, Butler, and Ripley counties.

Panicum obtusum HBK. Vine Mesquite.

Introduced in sandy soil along the Missouri River. Western Mo.: Jackson Co.

ECHINOCHLOA CRUS-GALLI (L.) Beauv. See Rh. 23: 58. 1921. Barnyard Grass.

Moist open and cultivated ground. Circumneutral. General but not common: Clark, Scott, and Jackson counties. This has often been confused with *Echinochloa pungens* and varieties.

ECHINOCHLOA CRUS-GALLI f. *LONGISETA* (Trin.) Farwell.

Alluvial and waste ground. Circumneutral. Scattered in central Mo.: St. Charles, St. Louis, Miller, and Jackson counties.

Echinochloa pungens (Poir.) Rydb. See Rh. 37: 137. 1935. Barnyard Grass.

Echinochloa muricata (Michx.) Fernald.

Waste, cultivated, and alluvial ground, borders of streams, ponds, and sloughs, and thickets. Indifferent. General and common.

Echinochloa pungens var. *occidentalis* (Wiegand) Fernald & Griseb., Rh. 37: 137. 1935.

Echinochloa occidentalis (Wiegand) Rydb. (R).

Waste, cultivated and alluvial ground. Indifferent. General: Putnam, Schuyler, Lincoln, Marion, St. Louis, Jefferson, Saline, and Taney counties.

Echinochloa pungens var. *microstachya* (Wiegand) Fernald & Griscom, Rh. 37: 137. 1935.

Echinochloa muricata var. *microstachya* Wiegand.

Echinochloa microstachya (Wiegand) Rydb. (R).

In similar situations to the preceding. Indifferent. Western Mo.: Jackson and Holt counties.

Echinochloa pungens var. *ludoviciana* (Wiegand) Fernald & Griscom, Rh. 37: 137. 1935.

Echinochloa muricata var. *ludoviciana* Wiegand.

Alluvial ground. Circumneutral. Scattered in central Mo.: St. Louis, Clay, and Jackson counties.

ECHINOCHLOA COLONUM (L.) Link. Jungle Rice.

Moist ground. Circumneutral. Southeastern Mo., local: Pemiscot Co.

SETARIA LUTESCENS (Weigel) Hubbard, Rh. 18: 232. 1916. Yellow Foxtail Grass.

Setaria glauca (L.) Beauv. (G), (B & B).

Waste and cultivated ground. Indifferent. General and common.

Setaria geniculata Beauv. Prairie Foxtail Grass.

Setaria imberbis R. & S. (G), (B & B).

Prairies, usually in sandy or cherty soil. Oxyophile. General but scattered: Putnam, Randolph, Linn, St. Louis, Mississippi, Dunklin, Shannon, Phelps, Hickory, Vernon, Barton, and Jasper counties.

SETARIA VERTICILLATA (L.) Beauv. Foxtail Grass.

Waste and cultivated ground. Circumneutral. General but less common than the following.

SETARIA VIRIDIS (L.) Beauv. Green Foxtail Grass.

Waste and cultivated ground. Indifferent. General and common.

SETARIA ITALICA (L.) Beauv. Italian Millet.

Escaped from cultivation, in waste ground and along railroads and roadsides. Scattered.

SETARIA ITALICA var. *GERMANICA* (Mill.) Richter. Hungarian Millet.

Occasionally escaped from cultivation, in waste ground and along railways and roadsides. Scattered.

Cenchrus pauciflorus Benth. See Contr. U. S. Nat. Herb. 22: 67. 1920. Bur Grass, Sand-burs.

Cenchrus carolinianus of some auth., not Walt. (G), (B & B).

Waste ground and along roadsides and railways. Oxyophile. General but scattered.

Erianthus strictus Baldw. Beard Grass.

Swampy ground and wet open woods. Circumneutral. Southeastern Mo.: Dunklin Co.

Erianthus alopecuroides (L.) Ell. See Am. Jour. Bot. 21: 139. 1934. Woolly Beard Grass.

Erianthus divaricatus (L.) Hitchc. (G), (B & B).

Moist rocky open woods and thickets. Oxyophile. Southern Mo.: Iron, Shannon, Carter, Dunklin, Ozark, Taney, Christian, Stone, and Barry counties.

ARTHRAXON HISPIDUS (Thunb.) Merr. var. *CRYPTATHERUS* (Hack.) Honda.

Moist grassy banks. Circumneutral. Introduced in St. Louis Co.

Andropogon scoparius Michx. var. *genuinus* Fernald & Griscom, Rh. 37: 144. 1935. Blue-stem, Prairie Beard Grass.

Andropogon scoparius var. *vilosissimus* Kearney.

Prairies, glades, open and waste ground. Oxyophile. General.

Andropogon scoparius var. *frequens* Hubbard, Rh. 19: 103. 1917.

Similar situations to the preceding. Oxyophile. General.

Andropogon scoparius var. *divergens* Hack. See Rh. 37: 144. 1935.

Prairies, glades, and sandy open ground. Oxyophile. Eastern Mo.: Lewis, St. Louis, and Scott counties.

Andropogon virginicus L. var. *genuinus* Fernald & Griscom, Rh. 37: 142. 1935. Old Field Beard Grass, Broom Sedge.

Prairies, glades, old fields, and waste ground. Oxyophile. Central and southern Mo. south and east of a line drawn from Lincoln, Boone, and Cooper counties to Henry and Vernon counties.

Andropogon virginicus var. *tetrapachys* (Ell.) Hack. See Rh. 37: 142. 1935. Sandy open and waste ground. Oxyophile. Southeastern Mo.: Madison and Mississippi counties.

Andropogon provincialis Lam. See Rh. 37: 146. 1935. Big Blue-stem, Blue-joint Turkeyfoot.

Andropogon furcatus Muhl. (G), (B & B).

Prairies, glades, and open rocky woods. Oxyophile to circumneutral. General.

Andropogon provincialis var. *chrysocomus* (Nash) Fernald & Griscom, Rh. 37: 147. 1935.

Andropogon chrysocomus Nash (B & B).

Prairies and waste ground. Oxyophile. Southwestern Mo.: Jackson, Stone, and Jasper counties.

Andropogon ternarius Michx. Silvery Beard Grass.

Prairies and rocky open slopes, usually in sandy or cherty soils. Oxyophile. Southern Mo.: Ste. Genevieve, Madison, Stoddard, Dunklin, Jasper, and McDonald counties.

Andropogon Elliottii Chapm.

Prairies, glades, and sandy open woods. Oxyophile. Southern Mo.: Jefferson, Madison, Shannon, and Barry counties.

Andropogon Elliottii var. *projectus* Fernald & Griscom, Rh. 37: 139. 1935.

Similar situations to the preceding. Oxyophile. Southern Mo.: Shannon and Taney counties.

Andropogon saccharoides Sw. Beard Grass.

Andropogon Torreyanus Steud.

Amphelophis saccharoides (Sw.) Nash (B & B).

Prairies, glades, and rocky ledges. Oxyophile. Southwestern Mo.: Jasper and McDonald counties, and also adventive in Jackson Co.

SORGHUM HALEPENSE (L.) Pers. Johnson Grass.

Introduced and established in low meadows and fertile cultivated ground. Often a pernicious weed. Circumneutral. Scattered but becoming more general.

SORGHUM VULGARE L. Sorghum Cane.

Escaped in waste ground and along railways and roadsides. Circumneutral. Scattered.

Sorghastrum nutans (L.) Nash. Indian Grass.

Prairies, glades, and open rocky woods. Oxylophile. General.

Manisuris cylindrica (Michx.) Kuntze. See Hitchcock, Man. Grasses U. S. Misc. Publ. U. S. Dept. Agr. 200: 761 and 881. 1935.

Rottboellia cylindrica (Michx.) Torr., not Willd. (G.).

Coelorachis cylindrica (Michx.) Nash (B & B).

Prairies and sandy open ground. Oxylophile. Scattered in southeastern and western Mo.: Mississippi and Jackson counties.

The common cultivated cereals, wheat (*Triticum aestivum*), rye (*Secale cereale*), and barley (*Hordeum sativum*), as well as Indian corn (*Zea Mays*), are frequently found growing as waifs along roads and railroads and on dumps, but as they do not self-seed nor show any sign of persisting they can scarcely be considered as additions to the flora. Sometimes *Zea Mays* is found self-seeding in rich or rocky woods where probably carried by man or lower animals, such as squirrels, and appears as a spontaneous part of the flora. Rice (*Oryza sativa*) is infrequently found as a waif in cultivated or waste ground, as an escape from cultivation.

Fam. CYPERACEAE**Cyperus flavescens** L.

Low wet ground. Circumneutral. Central and southern Mo., mostly in the eastern counties: St. Louis, Jefferson, Washington, St. Francois, Iron, Madison, Dunklin, Butler, Carter, Shannon, Boone, Miller, and Webster counties.

Cyperus diandrus Torr.

Low alluvial ground along streams and sloughs. Circumneutral. General.

Cyperus compressus L. Coco Grass.

Swamps and moist cultivated ground. Circumneutral. Eastern Mo. south of the Missouri River: St. Louis, Dunklin, and Butler counties.

Cyperus rivularis Kunth.

Wet open ground. Circumneutral. General.

Cyperus Gatesii Torr.

Low woods and swamps. Circumneutral. Southeastern Mo., local: Dunklin Co.

Cyperus inflexus Muhl.

Cyperus aristatus Rottb. (G.).

Wet depressions in glades, gravel, and sand bars along streams, alluvial and moist cultivated ground. Oxylophile. General, but commonest in central and southern Mo.: Marion, Ralls, Lincoln, St. Louis, Jefferson, Iron, Madison, Perry, Mississippi, Dunklin, Butler, Reynolds, Pulaski, Montgomery, Miller, Laclede, Boone, Saline, Clinton, Holt, Clay, Jackson, Henry, Cedar, Greene, Jasper, Newton, and McDonald counties.

Cyperus Schweinitzii Torr.

Low ground along streams and about ponds. Circumneutral. Scattered: St. Louis, Jefferson, and Jackson counties.

Cyperus acuminatus Torr. & Hook.

Low open ground. Circumneutral. General.

Cyperus pseudovegetus Steud.

Wet prairies and borders of streams and ponds. Circumneutral. Central and southern Mo.: Boone, New Madrid, Mississippi, Stoddard, Butler, Ripley, Jasper, Newton, and McDonald counties.

Cyperus Hallii Britton.

Missouri River bottoms. Circumneutral. Western Mo.: Jackson Co.

Cyperus esculentus L. Yellow Nut-grass.

Wet woods, sand and gravel bars along streams, prairie swales, and moist cultivated ground. Circumneutral. General.

Cyperus esculentus var. *longispicatus* Boeckl.

Occasionally found with the preceding, in similar situations.

Cyperus esculentus var. *angustispicatus* Britton.

Low wet ground. Circumneutral. Jasper Co.

Cyperus erythrorhizos Muhl.

Including *Cyperus erythrorhizos* var. *pumilus* Engelm., merely a dwarf form.

Cyperus Halei Torr.

Wet woods, low and alluvial ground along streams and lakes. Circumneutral. General but scattered: Lincoln, St. Louis, Perry, Dunklin, Butler, Putnam, Boone, Saline, Atchison, Holt, Clinton, Dekalb, Clay, Carroll, and Jackson counties.

Cyperus ferrugineus Boeckl. See Rh. 37: 150, 1935.

Cyperus feraz of auth. in part, not Rich. (G).

Cyperus speciosus of auth. in part, not Vahl (B & B).

Low ground along streams and sloughs, especially the larger rivers. Circumneutral. General. This has been confused with *Cyperus feraz* which is known only in southeastern Mo.

Cyperus ferax Rich. See Rh. 37: 150, 1935.

Swampy woods along St. Francis River. Circumneutral. Southeastern Mo., local: Dunklin Co. This has been confused with *Cyperus ferrugineus*.

Cyperus Engelmanni Steud.

Low alluvial ground. Circumneutral. East-central Mo., local: St. Louis Co.

Cyperus strigosus L. See Rh. 37: 150-151, 1935.

Cyperus strigosus var. *compositus* Britton (G).

Cyperus strigosus var. *elongatus* Britton (G).

Cyperus strigosus var. *capitatus* Britton, wrongly ascribed to Boeckeler (G).

Low wet ground, along streams, ponds, and sloughs, sometimes in waste or cultivated soils. Circumneutral. General.

Cyperus strigosus var. *robustior* Britton. See Rh. 37: 151, 1935.

Commonly found with the typical form, in similar situations.

Cyperus refractus Engelm.

Open woods or open ground, usually in dry sandy or sterile soils, also in low ground along streams, and on gravel bars. Oxylophile. Eastern and southern Mo., south of the Missouri River: St. Louis, Jefferson, Ste. Genevieve, St. Francois, Wayne, Stoddard, Butler, Reynolds, Ripley, Pulaski, Crawford, Dent, Shannon, Oregon, Howell, and Barry counties.

Cyperus lancastriensis Porter.

Prairie swales and moist rocky slopes and glades. Oxylophile to circumneutral. Southern and east-central Mo.: St. Louis, Madison, Jasper, and Newton counties.

Cyperus retrofractus (L.) Torr.

Sandy open ground, in woods or fields. Oxylophile. Southeastern Mo.: Dunklin, Ripley, and Carter counties.

Cyperus dipsaciformis Fernald.

Cyperus retrofractus of auth. in part (B & B).

Sandy open woods or fields. Oxylophile. Southeastern Mo.: Mississippi and Dunklin counties.

Cyperus ovularis (Michx.) Torr. Hedgehog Club-rush.

Sandy soil along streams, dry open woods, glades, and prairies. Oxylophile to circumneutral. Central and southern Mo. south of a line drawn from St. Louis, Montgomery, and Boone counties to Jackson Co.

Cyperus ovularis var. *robustus* Boeckl.

Occasionally found with the typical form, in similar situations.

Cyperus globulosus Aubl. See Rh. 37: 153-154. 1935.

Cyperus echinatus (Ell.) Wood (G).

Open woods and prairies. Circumneutral. Southeastern Mo.: Dunklin Co.

Cyperus filiculmis Vahl. See Rh. 37: 153. 1935.

Cyperus Bushii Britton (B & B), in part.

Dry open woods, prairies, and glades. Circumneutral to oxylophile. General.

Cyperus filiculmis var. *macilentus* Fernald. See Rh. 37: 153. 1935.

Sandy open ground, glades, and banks of streams. Oxylophile. Eastern, central, and southern Mo.: Shelby, St. Charles, Jefferson, Wayne, Bollinger, Dunklin, Morgan, Hickory, Cedar, and Saline counties.

Kyllinga pumila Michx.

Wet open woods and prairies. Circumneutral. General but not common.

Dulichium arundinaceum (L.) Britton.

Borders of sloughs and ponds. Circumneutral. General but uncommon: St. Charles, St. Louis, Iron, Shannon, Howell, Boone, Jackson, Cass, and Newton counties.

Eleocharis quadrangulata (Michx.) R. & S. See Rh. 31: 132-133. 1929.

Low muddy banks of ponds and streams. Circumneutral. Central and southern Mo., uncommon: St. Louis, Iron, Stoddard, New Madrid, Ripley, Shannon, Texas, Greene, and Newton counties.

Eleocharis obtusa (Willd.) Schultes. Spike Rush.

Muddy borders of ponds and streams. Circumneutral. General and common.

Eleocharis Engelmanni Steud.

Muddy borders of streams, sloughs, and ponds. Circumneutral. Eastern, southern, and central Mo.: Lincoln, St. Louis, Wayne, Iron, Shannon, Dent, Howell, Greene, Jasper, Barry, McDonald, and Jackson counties.

Eleocharis Engelmanni var. *robusta* Fernald.

Occasionally found with the typical form, in similar situations: Iron, Shannon, Lawrence, and Greene counties.

Eleocharis macrostachya Lindb. f. See Rh. 31: 66-67. 1929. Spike Rush.

Eleocharis macrostachya Britton (B & B).

Prairie swales and borders of streams and ponds. Circumneutral. Central and southern Mo.: Lincoln, St. Charles, St. Louis, Franklin, Washington, Lafayette, Jackson, and Jasper counties.

Eleocharis lanceolata Fernald.

Wet sandy open ground and glades. Oxyophile to circumneutral. Southern Mo.: Carter, Jasper, and Barton counties.

Eleocharis Smallii Britton. See Rh. 31: 64-66. 1929.

Wet meadows, prairies, and sloughs. Circumneutral. General.

Eleocharis calva Torr. See Rh. 31: 68-70. 1929. Creeping Spike Rush.

Eleocharis palustris (L.) R. & S. var. *glaucescens* of Am. auth. (G), (B & B).

Wet prairies, meadows, and sloughs. Circumneutral. General and common.

Eleocharis capitata (L.) R. Br. var. *verrucosa* Svenson, Rh. 34: 202. 1932.

Eleocharis tenuis of auth. in part (G), (B & B).

Low woods and swampy open ground. Circumneutral. General.

Eleocharis compressa Sulliv. See Rh. 34: 215. 1932.

Eleocharis acuminata (Muhl.) Nees (G), (B & B).

Wet prairies, depressions in glades, and borders of sloughs, ponds, and ditches. Calciphile to circumneutral. Eastern, central, and southern Mo.: Lincoln, Montgomery, St. Louis, Franklin, Jefferson, Washington, Ste. Genevieve, Iron, Texas, Shannon, Mississippi, Miller, Camden, Maries, Pulaski, Laclede, Wright, Greene, Douglas, Vernon, Jasper, Barry, and Jackson counties.

Eleocharis parvula (R. & S.) Link. See Rh. 31: 168. 1929.

Scirpus nanus Spreng. (G), (B & B).

Marshy ground about saline springs and ponds. Middle Mo.: Cooper and Saline counties.

Eleocharis acicularis (L.) R. & S. var. *typica* Svenson, Rh. 31: 184. 1929.

Borders of ponds and sloughs. Circumneutral. General but scattered: Putnam, Lincoln, St. Louis, Jefferson, Franklin, Dent, Carter, Shannon, Howell, Holt, Jackson, Webster, Vernon, Jasper, and Greene counties.

Eleocharis acicularis var. *graciliscescens* Svenson, Rh. 31: 191. 1929.

Springs and muddy borders of ponds and sloughs. Circumneutral. Central and southern Mo., scattered: St. Louis, Perry, Ripley, Phelps, Laclede, Texas, Ozark, Greene, and Jasper counties.

Stenophylax capillaris (L.) Britton.

Prairie swales, glades, and barrens. Oxyophile. General but commonest in Ozark region.

Stenophyllum capillaris var. ***cryptostachys*** Fernald, Rh. 19: 154. 1917.
Sandy open woods. Oxyophile. Southern Mo., local: Shannon Co.

Fimbristylis castanea (Michx.) Vahl.

Prairies and wet depressions in glades. Circumneutral to oxyophile. Central and southern Mo.: St. Louis, Shannon, Benton, Dallas, Cedar, Jackson, and Jasper counties.

Fimbristylis castanea var. ***puberula*** (Michx.) Britton.

Fimbristylis puberula (Michx.) Vahl (S).

High sandy prairies, upland meadows, and glades. Oxyophile to circumneutral. Central and southern Mo.: Montgomery, St. Louis, Jefferson, Washington, Franklin, Reynolds, Phelps, Maries, Madison, Iron, Douglas, Greene, Ozark, Taney, Stone, Hickory, Cedar, St. Clair, Barry, Barton, Jasper, and Newton counties.

Fimbristylis laxa Vahl.

Fimbristylis Baldwiniana Torr. (B & B).

High sandy prairies, banks, and moist places in glades, and gravel or sand bars along streams. Oxyophile. Central and southern Mo.: Madison, Mississippi, Dunklin, Cooper, Cedar, Jackson, Vernon, Greene, Jasper, Newton, and McDonald counties.

Fimbristylis Vahlii (Lam.) Link.

Moist sandy open ground. Oxyophile. Southern Mo., scattered: Wayne, Dunklin, and Barry counties.

Fimbristylis mucronulata (Michx.) Blake, Rh. 20: 25. 1918.

Fimbristylis autumnalis of Am. auth. (G), (B & B).

Prairies and sandy fields. Oxyophile to circumneutral. Central and southern Mo.: St. Francois, Perry, New Madrid, Dunklin, Howell, Jackson, Jasper, and Newton counties.

Fimbristylis autumnalis (L.) R. & S. See Rh. 20: 24. 1918.

Fimbristylis Frankii Steud. (G).

Fimbristylis geminata (Nees) Kunth (B & B).

Sandy fields, sandy open ground along streams, and prairies. Circumneutral to oxyophile. General.

Scirpus planifolius Muhl.

Dry open woods and shaded sandstone ledges. Oxyophile. Southern Mo.: Shannon and Douglas counties.

Scirpus americanus Pers. Three-square.

Wet woods, sloughs, swamps, and alluvial banks of streams. Circumneutral to oxyophile. General and common.

Scirpus validus Vahl. Great Bulrush.

Wet prairies and borders of sloughs and ponds. Circumneutral. General.

Scirpus acutus Muhl. See Rh. 22: 55-56. 1920.

Scirpus occidentalis (Wats.) Chase (G), (B & B).

Ponds and sloughs. Calciphile to circumneutral. Scattered in northern and western Mo.: Adair, Saline, Holt, Buchanan, Andrew, Platte, Jackson, and Greene counties.

Scirpus campestris Britton. Bayonet Grass.

Sandy open ground. Calciphile to circumneutral. Northwestern Mo., local: Holt Co.

Scirpus fluviatilis (Torr.) Gray. River Bulrush.

Wet ground along streams, and borders of ponds and sloughs. Circumneutral. General.

Scirpus atrovirens Muhl. Common Bulrush.

Boggy or swampy open ground. Circumneutral. General.

Scirpus atrovirens var. *georgianus* (Harper) Fernald, Rh. 23: 134. 1921.

Scirpus georgianus Harper (G).

Low wet woods. Circumneutral to oxyophile. Southeastern Mo.: Iron Co.

Scirpus pallidus (Britton) Fernald.

Wet open ground. Circumneutral. Western Mo.: Dekalb and Jasper counties.

Scirpus divaricatus Ell.

Swamps and low wet woods. Circumneutral. Southeastern Mo.: Dunklin, Butler, and Ripley counties.

Scirpus lineatus Michx.

Wet prairies and bogs. Circumneutral. General.

Scirpus pedicellatus Fernald.

Sloughs and ponds. Circumneutral. Northern Mo.: Putnam and Adair counties.

Scirpus Eriophorum Michx.

Swamps and low wet woods. Circumneutral. General but scattered: Lincoln, Iron, Stoddard, Dunklin, Butler, Caldwell, and Jackson counties.

Scirpus carinatus Gray.

Glades, barrens, and sandy open ground. Oxyophile. Southern Mo., rare: Dunklin, Jasper, Newton, and McDonald counties.

Fuirena simplex Vahl. Umbrella grass.

Bogs and swampy open ground. Circumneutral to calciphile. Northwestern, central, and southern Mo., mostly in the eastern Ozark region: Washington, Crawford, St. Francois, Iron, Dent, Wayne, Ripley, Shannon, Texas, Holt, and Jackson counties.

Hemicarpha micrantha (Vahl) Pax.

Sand bars along streams, borders of ponds, and wet depressions in glades. Circumneutral to oxyophile. General but scattered: Clark, Lincoln, St. Louis, Jefferson, Franklin, Perry, Bollinger, Mississippi, Dunklin, Butler, Wayne, Reynolds, Oregon, Howell, Miller, Pulaski, Holt, Jackson, Jasper, Barry, and Stone counties.

Hemicarpha micrantha var. *aristulata* Coville.

Sandy borders of ponds, lakes, and streams, and wet depressions in glades. Western Mo., scattered: Buchanan, Barry, and Stone counties.

Rynchospora corniculata (Lam.) Gray. Horned Rush.

Swamps, low wet woods, and along drainage canals. Circumneutral to oxyophile. Eastern Mo., mostly in the lowland counties: Audrain, St. Louis, Iron,

Cape Girardeau, Stoddard, New Madrid, Mississippi, Dunklin, and Butler counties.

Rynchospora macrostachya Torr.

Low swampy woods. Circumneutral. Southeastern Mo.: Bollinger, Stoddard, Pemiscot, Butler, and Ripley counties.

Rynchospora cymosa Ell.

Prairie swales, meadows, and wet rocky banks. Oxylophile to circumneutral. Southern Mo.: Madison, Shannon, St. Clair, Vernon, Barton, and Jasper counties. This has sometimes been confused with *R. compressa* which does not occur in Mo.

Rynchospora capillacea Torr.

Moist rocky ground and wet ledges along bluffs. Calciphile. Eastern Mo., south of the Missouri River: Jefferson, Washington, St. Francois, Ripley, Shannon, and Texas counties.

Rynchospora capitellata (Michx.) Vahl. See Rh. 20: 27. 1918. False Bog Bush.
Rynchospora glomerata of auth., not Vahl (G), (B & B).

High prairies and rocky or sandy banks of streams. Oxylophile. Southern Mo.: St. Francois, Ste. Genevieve, Perry, Madison, Iron, Reynolds, Ripley, Dent, Howell, Shannon, Greene, Barton, and Jasper counties.

Scleria triglomerata Michx. Tall Nut-grass.

Rocky open woods, glades, and prairies. Oxylophile. General but scattered: Clark, Lewis, Macon, St. Louis, Jefferson, Iron, Reynolds, Dent, Shannon, Phelps, Howell, Mercer, Linn, Stone, Jackson, Barton, Jasper, Newton, McDonald, and Barry counties.

Scleria pauciflora Muhl.

Sandy prairies and barrens. Oxylophile. Southern Mo.: Jefferson, Iron, Shannon, Wright, Ozark, Jasper, and Barry counties.

Scleria pauciflora var. *caroliniana* (Willd.) Wood.

Rocky woods and glades. Oxylophile. Southwestern Mo.: Hickory, Jasper, and Newton counties.

Scleria oligantha Michx.

Rocky open woods and glades. Circumneutral. Southwestern Mo.: Ozark and Barry counties.

Scleria ciliata Michx.

Scleria Elliottii Chapm. (G).

High sandy prairies and open rocky woods. Oxylophile. Southern Mo.: Franklin, Washington, Iron, Carter, Shannon, Dent, Taney, Barry, Barton, Jasper, and McDonald counties.

Scleria setacea Poir.

Scleria reticularis Michx. var. *pubescens* Britton (G).

Open ground. Southwestern Mo., local: Greene Co.

Scleria verticillata Muhl.

Moist sandy open ground. Oxylophile. Southern Mo., scattered: Jefferson and McDonald counties.

Carex praegracilis Boott.*Carex camporum* Mack. (B & B).Dry open ground. Circumneutral. Introduced in Jackson Co. This has sometimes been confused with *Carex siccata* which does not occur in Mo.*Carex Sartwellii* Dewey.

Low meadows. Circumneutral. Western Mo.: Jackson Co.

Carex retroflexa Muhl.

Dry open woods. Circumneutral. General: Schuyler, Shelby, Monroe, St. Louis, Jefferson, Franklin, Ste. Genevieve, Wayne, Butler, Dunklin, Shannon, Phelps, Laclede, Boone, Clay, Jackson, Jasper, and Stone counties.

Carex texensis (Torr.) Bailey.*Carex retroflexa* var. *texensis* (Torr.) Fernald (G).

Swampy open ground. Circumneutral. Southeastern Mo.: Cape Girardeau Co.

Carex rosea Schkuhr.*Carex rosea* var. *minor* Boott (G).

Dry rocky woods and prairies. Circumneutral. General.

Carex convoluta Mack. Bull. Torr. Bot. Club 43: 428. 1916.*Carex rosea* of auth., not Schkuhr (G), (B & B).

Dry rocky woods. Circumneutral. General.

Carex cephalophora Muhl.

Prairies, swales, meadows, and open woods. Circumneutral. General.

Carex Leavenworthii Dewey.

Prairies and open rocky woods. Circumneutral. General.

Carex mesochorea Mack. Bull. Torr. Bot. Club 37: 246. 1910.

Central and southern Mo.: Lincoln, St. Louis, Jackson, Greene, and Stone counties.

Carex arkansana Bailey.

Prairie swales and open woods. Circumneutral. Southwestern Mo.: Jasper Co.

Carex Muhlenbergii Schkuhr.

Dry open woods and prairies. Circumneutral. General.

Carex Muhlenbergii var. *enervis* Boott.*Carex plana* Mack. Bull. Torr. Bot. Club 50: 350. 1923.

Dry prairies, meadows, and open ground. Circumneutral. General.

Carex austrina (Small) Mack.

Rocky prairies and glades. Circumneutral to calciphile. Western and southern Mo.: Shannon, Harrison, Jackson, Christian, Taney, and Jasper counties.

Carex gravida Bailey.*Carex gravida* var. *laxifolia* Bailey, in part (G).

Prairies and dry open banks. Circumneutral. General.

Carex Lunelliana Mack. Bull. Torr. Bot. Club 42: 615. 1915.*Carex gravida* var. *laxifolia* Bailey, in part (G).

Prairies and dry open banks. Circumneutral. General.

Carex aggregata Mack. Bull. Torr. Bot. Club 37: 246. 1910.

Prairie swales. Circumneutral to calciphile. Central and western Mo.: Washington, Osage, Jackson, and Jasper counties.

Carex cephaloidea Dewey.

Dry open ground and hillsides. Circumneutral. Scattered: St. Louis and Jackson counties.

Carex sparganioides Muhl.

Margins of ponds, bogs, and swampy woods. Circumneutral. General but scattered: Schuyler, Putnam, Knox, St. Louis, Jefferson, Washington, Shannon, Boone, Linn, Harrison, Atchison, Jackson, Dallas, Barton, Jasper, and Lawrence counties.

Carex triangularis Boeckl.

Swampy open ground. Oxylophile. Southeastern Mo.: Wayne and Dunklin counties.

Carex annectens Bicknell, Bull. Torr. Bot. Club 35: 492. 1908.

Carex xanthocarpa var. *annectens* Bicknell.

Carex annectens var. *xanthocarpa* Wiegand.

Carex setacea var. *ambigua* (Barratt) Fernald, in part (G), (B & B).

Carex brachyglossa Mack. Bull. Torr. Bot. Club 50: 355. 1923.

Prairies, dry open woods, and open soils. Circumneutral to oxylophile. General.

Carex vulpinoidea Michx. Fox Sedge.

Wet prairies, meadows, and borders of sloughs. Circumneutral. General.

Carex decomposita Muhl.

Swamps and boggy ground. Circumneutral. Southeastern Mo.: Dunklin, Dent, Shannon, and Texas counties.

Carex oklahomensis Mack. Torreya 14: 126. 1914.

Prairie swales and borders of ponds and ditches. Circumneutral to calciphile. Western Mo.: Jackson, Jasper, and Newton counties.

Carex stipata Muhl.

Prairie swales and borders of ponds and ditches. Circumneutral. General but scattered: Shelby, Lincoln, St. Louis, Jefferson, Iron, Madison, Wayne, Butler, Shannon, Boone, Jackson, Jasper, and Newton counties.

Carex laevigata (Kükenth.) Mack. in B. & B. Ill. Fl. ed. 2, 1: 371. 1913.

Wet meadows and open bogs. Circumneutral. Eastern Mo., local: St. Louis Co.

Carex crus-corvi Shuttliw.

Low wet woods, meadows, and swampy prairies. Circumneutral. General.

Carex conjuncta Boott.

Wet meadows, swamps, and prairie swales. Circumneutral. General: Scotland, Adair, Sullivan, Boone, St. Louis, Franklin, Howell, Stone, Clay, Jackson, and Jasper counties.

Carex interior Bailey.

Carex scirpoidea Schkuhr (G).

Wet open ground. Circumneutral to oxylophile. Southeastern Mo.: Iron and Shannon counties.

Carex scoparia Schkuhr.

Carex scoparia var. *moniliformis* Tuckerm. (G), in part.

Prairie swales and wet meadows. Circumneutral. General but scattered: Scotland, Schuyler, Ralls, Audrain, St. Louis, Franklin, Howell, Boone, Jackson, Benton, Wright, Greene, and Jasper counties.

Carex tenera Dewey. See Rh. 23: 235. 1921. Straw Sedge.

Carex straminea of Am. auth., not Willd. (G), (B & B).

Dry open woods and prairies. Circumneutral. General.

Carex normalis Mack. Bull. Torr. Bot. Club 37: 244. 1910.

Carex mirabilis Dewey, not Host (G).

Carex mirabilis var. *perlonga* Fernald (G), in part.

Prairies and open woods. Circumneutral. General.

Carex festucacea Schkuhr.

Dry rocky ground, meadows, and prairies. Circumneutral. General.

Carex brevior (Dewey) Mack. Am. Midl. Nat. 4: 235. 1915.

Carex molesta Mack.

Carex festucacea var. *brevior* (Dewey) Fernald (G).

Dry rocky ground, meadows, and prairies. Circumneutral. General.

Carex hormathodes Fernald.

Open swampy woods and prairies. Circumneutral. Southwestern Mo., local: Jasper Co.

Carex projecta Mack.

Low swampy ground. Circumneutral. Northeastern Mo.: Adair Co.

Carex Bicknellii Britton.

Dry open woods and prairies. Circumneutral. General.

Carex straminea Willd.

Prairie swales, meadows, and swampy open woods. Circumneutral to oxylophile. General.

Carex tribuloides Wahlenb.

Prairie swales and swampy open woods. Circumneutral. General.

Carex tribuloides var. *sangamonensis* Clokey, Rh. 21: 84. 1919.

Occasionally found with the typical form. St. Louis, Boone, and Jackson counties.

Carex cristatella Britton.

Carex cristata Schwein., not Clairy (G).

Prairie swales, wet woods, and thickets. Circumneutral. Northern and central Mo.: Mercer, Adair, Knox, Monroe, Lincoln, St. Louis, Jefferson, Boone, Saline, Clay, and Jackson counties.

Carex muskingumensis Schwein.

Wet woods and swampy prairies. Circumneutral. Northern and central Mo.: Clark, Ralls, St. Louis, Jefferson, Adair, Livingston, and Jackson counties.

Carex Jamesii Schwein.

Rocky or rich woods and along base of bluffs and alluvial soils of river banks and ponds and sloughs. Circumneutral. General.

Carex physorhyncha Liebm.

Low wet woods. Circumneutral. Southeastern Mo., local: Dunklin Co. This has been confused with *Carex albicans* of some authors and *Carex Emmonsii* which do not occur in Missouri.

Carex pensylvanica Lam. var. *digyna* Boeckl.

Carex pensylvanica of auth. in part (G).

Carex heliophila Mack. Torreya 13: 15. 1913.

Prairies, dry woods, and rocky open banks. Oxyophile. Northern and central Mo.: Schuyler, St. Louis, Daviess, Clay, and Jackson counties. *Carex heliophila* cannot be considered as specifically distinct from *Carex pensylvanica*, and the Mo. material should be treated as a variety of the latter species.

Carex articta Mack. See N. Am. Fl. 18: 189. 1935.

Carex varia Muhl., not Lumnitzer nor Host (G), (B & B).

Carex varia var. *colorata* Bailey, in part.

Dry rocky woods and prairies. Oxyophile. General.

Carex nigro-marginata Schwein.

Open woods. Circumneutral. Southeastern Mo.: Crowleys Ridge, Dunklin Co.

Carex umbellata Schkuhr.

Carex microrhyncha Mack. Bull. Torr. Bot. Club 40: 548. 1913.

Rocky prairies, dry rocky or upland woods, and glades. Oxyophile. General: known north of the Missouri River in St. Charles, Warren, Montgomery, Callaway, Boone, Audrain, and Grundy counties. The Missouri material has been referred by Mackenzie to *Carex microrhyncha*, but this does not appear to be distinct from *Carex umbellata*.

Carex hirtifolia Mack. Bull. Torr. Bot. Club 37: 244. 1910.

Carex pubescens Muhl., not Poir. (G), (B & B).

Rich woods, prairies, and meadows. Circumneutral. General.

Carex eburnea Boott.

Shaded limestone bluffs, and rarely on sandstone. Calciphile to circumneutral. Eastern, central, and southern Mo., south and east of a line from Lincoln, Monroe, Boone, Morgan, Benton, and Hickory counties to McDonald Co.

Carex tetanica Schkuhr.

Carex tetanica var. *Woodii* (Dewey) Bailey (G).

Carex Woodii Dewey.

Carex colorata Mack. (B & B).

Open ground. Circumneutral. Northwestern Mo.: Atchison Co.

Carex Meadii Dewey.

Carex tetanica var. *Meadii* (Dewey) Bailey (G).

Upland prairies, glades, and meadows. Calciphile to circumneutral. General and common. This has frequently been confused with *Carex Cravei*.

Carex Careyanus Torr.

Rich or rocky woods. Circumneutral. East-central and southern Mo.: St. Louis, Shannon, Taney, and Stone counties.

Carex digitalis Willd.

Dry or rocky open woods and moist ledges. Circumneutral. Southern Mo.: Jefferson, Dunklin, Shannon, Douglas, Wright, and Taney counties.

Carex laxiculmis Schwein.

Rich woods. Circumneutral. Southeastern Mo., local: Ripley Co.

Carex laxiculmis var. *copulata* (Bailey) Fernald.

Rich or rocky woods. Circumneutral. Local: Shannon Co.

Carex albursina Sheldon. See Rh. 24: 193. 1922.*Carex laxiflora* var. *latifolia* Boott (G).

Rich woods. Circumneutral. General but not common.

Carex blanda Dewey. See Rh. 24: 194. 1922.*Carex laxiflora* var. *blanda* (Dewey) Boott (G).*Carex laxiflora* var. *varians* of auth., not Bailey (G).

Rich or rocky woods. Circumneutral. General.

Carex laxiflora Lam. See Rh. 24: 195. 1922.*Carex laxiflora* var. *gracillima* Boott (G).

Rich woods and along shaded bluffs. Circumneutral. General.

Carex anceps Willd.*Carex laxiflora* var. *patulifolia* (Dewey) Carey (G).

Rich woods and along rocky bluffs and ledges. Circumneutral. Western Mo.: Jackson, Jasper, Barry, and Stone counties.

Carex granularis Muhl.

Moist woods and meadows. Circumneutral. General.

Carex granularis var. *Haleana* (Olney) Porter.*Carex Shriveri* Britton (B & B).

Moist meadows and low open ground. Circumneutral. Southern Mo., scattered: Wayne and Phelps counties.

Carex Crawei Dewey.

Wet places in glades. Calciphile. East-central and southern Mo.: Jefferson, Franklin, and Taney counties.

Carex oligocarpa Schkuhr.

Rich rocky woods and ledges along bluffs. Circumneutral. Central and southern Mo.: St. Louis, Jefferson, Franklin, Iron, Wayne, Shannon, Miller, Laclede, Boone, Clay, Jackson, Taney, Stone, Jasper, Newton, and McDonald counties.

Carex Hitchcockiana Dewey.

Rich woods and shaded bluffs. Circumneutral. General but scattered: St. Louis, Washington, Shannon, Mercer, and Jackson counties, and also recorded from Boone Co.

Carex amphibola Steud.*Carex grisea* var. *angustifolia* Boott (G).

Rich alluvial or wet woods. Circumneutral. Southeastern and central Mo.: St. Louis, Jefferson, Iron, Mississippi, Dunklin, Butler, Shannon, and Jackson counties.

Carex grisea Wahlb.

Prairie swales and moist woods. Circumneutral. General.

Carex grisea var. *rigida* Bailey.

Occasionally found with the typical form.

Carex grisea var. *globosa* Bailey.

In similar situations to the typical form. Local: Shannon Co.

Carex glaucodea Tuckerm.

Moist open ground and open woods. Circumneutral. Central and southern Mo.: St. Louis, Jefferson, Ste. Genevieve, St. Francois, Bollinger, Iron, Dunklin, Butler, Ripley, Shannon, Dent, Texas, Phelps, Boone, Douglas, and Webster counties.

Carex flaccosperma Dewey.

Swampy woods. Circumneutral. Southeastern Mo., local: Dunklin Co.

Carex gracillima Schwein.

Wet woods. Circumneutral. Southern and central Mo., scattered: St. Louis and Greene counties.

Carex oxylepis Torr. & Hook.

Rich low woods. Circumneutral. Southeastern Mo.: Dunklin and Butler counties.

Carex Davallii Schwein. & Torr.

Moist or rich woods, meadows, and borders of streams. General: Shelby, Marion, Ralls, Lincoln, St. Charles, St. Louis, Franklin, Stoddard, Shannon, Phelps, Boone, Schuyler, Scotland, Putnam, Mercer, Harrison, Gentry, Clay, Jackson, Johnson, Greene, Jasper, and Newton counties.

Carex cherokeensis Schwein.

Swampy ground. Circumneutral. Southeastern Mo.: Butler Co.

Carex virescens Muhl.

Wet woods and swampy open ground. Circumneutral. Southeastern Mo.: Scott, Dunklin, Butler, and Ripley counties.

Carex hirsutella Mack. Bull. Torr. Bot. Club 50: 349. 1923.

Carex triceps var. *hirsuta* (Willd.) Bailey (G).

Carex complanata Torr. (B & B).

Dry rocky woods and prairies. Oxylophile. General.

Carex caroliniana Schwein.

Carex triceps var. *Smithii* Porter (G).

Wet woods and prairie swales. Circumneutral. Central and southern Mo.: St. Louis, Jefferson, St. Francois, and Jasper counties.

Carex Bushii Mack. Bull. Torr. Bot. Club 37: 241. 1910.

Wet open ground. Circumneutral. Northern and western Mo.: Adair, Jackson, and Jasper counties.

Carex leptalea Wahlenb.

Moist bluffs and wet open ground. Calciphile to circumneutral. Southern Mo., local: Laclede, Washington, and Shannon counties.

Carex Joorii Bailey.

Carex macrocolea Steud. (G).

Swamps and low wet woods. Circumneutral. Southeastern Mo.: Dunklin Co.

Carex Shortiana Dewey.

Swales, meadows, and borders of ponds and streams. Circumneutral. General.

Carex Buxbaumii Wahlenb.

Swampy ground and prairies. Circumneutral. Scattered: Marion, Butler, and Clinton counties.

Carex stricta Lam. Tussock Sedge.

Carex stricta var. *angustata* (Boott) Bailey, in part.

Swampy woods and prairies. Circumneutral. Scattered: Shannon, Jackson, Jasper, and Greene counties.

Carex Haydeni Dewey.

Carex stricta var. *decora* Bailey (G).

Prairie swales. Circumneutral. Northern and western Mo., local: Jackson and Adair counties.

Carex scabriuscula Schwein.

Wet open or rocky ground. Circumneutral. Southwestern Mo., local: Greene Co.

Carex torta Boott.

Swamps and banks of streams. Oxyophile to circumneutral. Southern Mo.: Washington, Ste. Genevieve, Ripley, Iron, Shannon, and Webster counties.

Carex Emoryi Dewey.

Wet woods and prairie swales. Circumneutral. Scattered: Jackson and Merriam counties.

Carex crinita Lam. Fringed Sedge.

Prairie swales, sloughs, and margins of ponds and streams. Circumneutral. General.

Carex crinita var. *gynandra* (Schwein.) Schwein. & Torr.

Carex gynandra Schwein.

Prairie swales, sloughs, and margins of ponds. Circumneutral. Scattered: Ripley and Jackson counties.

Carex lacustris Willd.

Carex riparia Curtis (G).

Carex riparia var. *lacustris* (Willd.) Kükenth.

Low wet woods and swamps. Circumneutral. General.

Carex hyalinolepis Steud.

Carex impressa (S. H. Wright) Mack. Bull. Torr. Bot. Club 37: 236. 1910.
(B & B).

Carex riparia var. *impressa* S. H. Wright.

Swampy woods and borders of sloughs. Circumneutral. General.

Carex lanuginosa Michx.

Prairie swales and boggy ground. Circumneutral. General.

Carex laeviconica Dewey.

Carex trichocarpa var. *Deweyi* Bailey (G), in part.

Carex trichocarpa var. *imberbis* Gray (G), in part.

Carex trichocarpa Muhl. (B & B), in part.

Low wet ground. Circumneutral. Local: Schuyler and Jackson counties.

Carex atherodes Spreng.

Carex trichocarpa var. *aristata* (R. Br.) Bailey (G).

Low swampy ground. Circumneutral. Local: Jackson Co.

Carex vesicaria L.

Meadows and low ground. Circumneutral. Local: St. Louis Co.

Carex vesicaria var. *monile* (Tuckerm.) Fernald.

Carex monile Tuckerm.

Meadows and low ground. Circumneutral. Northern and central Mo.: Scotland, Adair, St. Louis, Saline, and Jackson counties.

Carex lurida Wahlenb.

Carex lurida var. *fasciculata* Bailey, in part.

Wet woods, swales, and borders of sloughs and streams. Circumneutral. General.

Carex comosa Boott.

Swampy ground. Circumneutral. Central-western and southeastern Mo.: Platte, Dunklin, and Butler counties.

Carex hystricina Muhl.

Rich moist woods and swales. Circumneutral. Central and southern Mo.: St. Louis, Jefferson, Washington, Iron, Shannon, Texas, Ripley, Saline, Jackson, and Greene counties. This species and *Carex lurida* have been confused with *Carex Schweinitzii* which is not known to occur in Mo.

Carex Frankii Kunth.

Prairie swales and borders of sloughs and streams. Circumneutral. General.

Carex squarrosa L.

Wet woods and prairies. Circumneutral. General.

Carex typhina Michx.

Carex typhina Schwein. (G).

Wet woods and swamps. Circumneutral. Northern, central, and eastern Mo.: Scotland, Adair, Shelby, Audrain, St. Louis, Franklin, Phelps, Bollinger, Wayne, Butler, Ripley, Boone, Linn, Livingston, and Jackson counties.

Carex intumescens Rudge.

Low woods and swampy open ground. Circumneutral. Southeastern Mo.: Cape Girardeau, Dunklin, Butler, and Ripley counties.

Carex Asa-Grayi Bailey.

Carex Grayii var. *hispidula* Gray (G), in part.

Low wet woods and sloughs. Circumneutral. General.

Carex louisianica Bailey.

Carex Halei Carey, not Dewey (G).

Swamps and wet woods. Circumneutral. Southeastern Mo.: New Madrid, Dunklin, and Butler counties.

Carex lupuliformis Sartwell.

Swampy ground. Circumneutral. Northern and central Mo., rare and scattered: St. Louis and Livingston counties.

Carex lupulina Muhl. Hop Sedge.

Carex lupulina var. *pedunculata* Dewey (G), in part.

Wet meadows, swampy woods, and borders of sloughs. Circumneutral. General.

Carex gigantea Rudge.

Swampy woods and wet open ground. Circumneutral. Southeastern Mo.: Dunklin, Butler, and Ripley counties.

Fam. ARACEAE

Arisaema triphyllum (L.) Schott. Indian Turnip, Jack-in-the-pulpit.

Rich or rocky woods and alluvial thickets. Circumneutral. General.

Arisaema Dracontium (L.) Schott. Green Dragon.

Rocky woods and thickets, in moister situations than the preceding. Circumneutral. General.

Peltandra virginica (L.) Kunth. Arrow Arum.

Boggy ground and borders of sloughs and ponds. Circumneutral. East-central Mo.: St. Charles, St. Louis, and Jefferson counties.

Peltandra virginica f. hastifolia Blake, Rh. 14: 105. 1912.

Wet or boggy ground. Circumneutral. Southeastern Mo.: Dunklin Co.

Acorus Calamus L. Sweet Flag.

Wet prairies and meadows, and borders of sloughs and ponds. Circumneutral. General.

Fam. LEMNACEAE

Spirodela polyrhiza (L.) Schleid. Duckweed.

Ponds and sloughs. General but not common.

Spirodela oligorrhiza (Kurz) Hegelm. See Bull. Torr. Bot. Club 61: 233-236. 1934.

Slow-flowing streams and sloughs. Local: Jackson Co.

Lemna trisulca L. Ivy-leaved Duckweed.

Stagnant pools, slow streams, and deep springs. Circumneutral. Central and southern Mo., scattered: Shannon, Oregon, and Jackson counties.

Lemna valdiviana Philippi. See Rh. 37: 75. 1935.

Lemna cyclostasa (Ell.) Chev. (B & B).

Ponds and sloughs. Circumneutral. Central and southern Mo., scattered: St. Francois, Dunklin, Oregon, and Jackson counties.

Lemna perpusilla Torr.

Ponds and sloughs. Central and southern Mo.: St. Louis, Dent, Boone, Saline, Jackson, Cass, and Greene counties.

Lemna perpusilla var. *trinervis* Aust.

Ponds. Occasionally found with the typical form. Jackson Co.

Lemna minor L. Little Duckweed.

Ponds, sloughs, and stagnant streams. Circumneutral. General.

Wolfia columbianae Karst.

Ponds and sloughs. Circumneutral. Central Mo., and perhaps more general: St. Louis, Boone, and Jackson counties.

Wolfia papillifera C. H. Thompson.

Sloughs, ponds, and rivers. Circumneutral. Scattered: Dunklin and Boone counties.

Wolfiella floridana (J. D. Sm.) C. H. Thompson.

Stagnant water. Circumneutral. Southeastern Mo.: Dunklin Co., in Varney and St. Francis rivers.

Fam. COMMELINACEAE

Tradescantia subaspera Ker-Gawl. See Contr. Arn. Arb. 9: 48. 1935.

Tradescantia pilosa Lehm. (G), (B & B).

Rich woods, shaded bluffs, and banks of streams. Circumneutral. Eastern and middle Mo.: Marion, Monroe, Ralls, Pike, Boone, Callaway, Montgomery, Warren, St. Louis, Jefferson, Franklin, Washington, Crawford, Ripley, Oregon, Shannon, Texas, Marion, Pulaski, Osage, Miller, Moniteau, Morgan, and Ozark counties.

Tradescantia canaliculata Raf. See Contr. Arn. Arb. 9: 74. 1935.

Tradescantia reflexa Raf. (G), (B & B).

Rocky prairies, moist banks, thickets, and open woods. Circumneutral. General.

Tradescantia virginiana L. See Contr. Arn. Arb. 9: 60. 1935. Spiderwort.

Tradescantia brevicaulis Raf., not of recent auth.

Rich moist ledges along bluffs, and alluvial woods. Circumneutral to calciphile. Eastern and central Mo.: Pike, Lincoln, St. Charles, St. Louis, Jefferson, Washington, Ste. Genevieve, Iron, Madison, Wayne, Carter, Ripley, Montgomery, Boone, Clinton, and Jackson counties.

Tradescantia bracteata Small. See Contr. Arn. Arb. 9: 85. 1935.

Prairies, thickets, and meadows, and also often introduced along railway embankments and roadsides. Circumneutral to oxylophilic. Northern and central Mo.: Scotland, Pike, Lincoln, St. Charles, St. Louis, Jefferson, Atchison, Jackson, Cass, and Henry counties.

Tradescantia longipes Anderson & Woodson, Contr. Arn. Arb. 9: 91. 1935.

Tradescantia brevicaulis of auth. in part, not Raf. (G), (B & B).

Rocky hillsides and sandy or rocky open woods. Oxylophilic. Eastern Ozark region: Crawford, Washington, Madison, St. Francois, Iron, Reynolds, Wayne, Carter, Shannon, Dent, Texas, Howell, and Douglas counties.

Tradescantia Tharpii Anderson & Woodson, Contr. Arn. Arb. 9: 70. 1935.

Tradescantia brevicaulis of auth. in part, not Raf. (G), (B & B).

Rocky prairies and hillsides. Circumneutral. Southwestern Mo.: Greene, Lawrence, and Jasper counties.

Tradescantia ozarkana Anderson & Woodson, Contr. Arn. Arb. 9: 56. 1935.

Rich rocky woods and moist ledges along bluffs. Circumneutral to calciphile. Southwestern Mo., local: Barry Co.

Tradescantia Ernestiana Anderson & Woodson, Contr. Arn. Arb. 9: 58. 1935.

Rocky wooded hillsides and ledges along bluffs. Circumneutral. Southwestern Mo.: Douglas, Taney, Barry, Jasper, and Newton counties.

Commelina communis L. Creeping Day-flower.

Wet alluvial cultivated or waste ground, and in woods and thickets. General. Sometimes becoming a troublesome weed.

*Commelinaceae**Commelinaceae* Walt.

Fields and waste ground. Indifferent. Introduced in Jackson Co.

Commelinaceae L. See Bull. Torr. Bot. Club 43: 97–111. 1916.*Commelinaceae* *hirtella* of auth., not Vahl (G), (B & B).

Moist alluvial ground along streams, and margins of swamps and sloughs. Central and southern Mo.: St. Louis, Jefferson, Bollinger, Scott, Mississippi, New Madrid, Pemiscot, Dunklin, Butler, Wayne, Carter, Ripley, Oregon, Shannon, Phelps, Pulaski, Laclede, Jackson, Cedar, St. Clair, Greene, Barry, Jasper, Newton, and McDonald counties.

Commelinaceae L. Day-flower.*Commelinaceae* *virginica* of auth., not L. (G), (B & B).

Bluffs and hillsides, sandy and rocky woods, alluvial banks, and gravel and sand bars along Ozark streams. Oxylophile to circumneutral. General: Mercer, Linn, Warren, Montgomery, Maries, Franklin, Jefferson, Dent, Reynolds, Shannon, Oregon, Texas, Pulaski, Miller, Camden, Laclede, Dallas, Morgan, Hickory, Polk, Cedar, Douglas, Ozark, Andrew, Jackson, Vernon, Jasper, Barry, and McDonald counties.

Commelinaceae *erecta* var. *crispa* (Wooton) Palmer & Steyermark, comb. nov.*Commelinaceae* *crispa* Wooton (B & B).

Exposed rocky ledges and glades. Circumneutral to calciphile. General but scattered: Putnam, Mississippi, Ripley, Jackson, Jasper, and McDonald counties.

Commelinaceae *longicaulis* Jacq. See Bull. Torr. Bot. Club 43: 96. 1916.*Commelinaceae* *nudiflora* of Am. auth., not L. (B & B).

Moist open or cultivated ground, in sandy or alluvial soil, frequently a weed in low fields. Circumneutral. General: Shelby, Lincoln, Randolph, Saline, St. Charles, St. Louis, Jefferson, Madison, Scott, New Madrid, Pemiscot, Dunklin, Ripley, Oregon, Howell, Shannon, Miller, Henry, Pettis, Douglas, Barry, Vernon, and Jasper counties.

Fam. XYRIDACEAE

Xyridaceae Muhl.

Moist borders of streams and ponds. Circumneutral. Local: Greene Co.

Fam. PONTEDERIACEAE

Pontederiaceae (Mart.) Schlecht. Water Hyacinth.

Introduced along drainage canals. Butler Co.

Pontederia cordata L. Pickerel-weed.

Ponds and sloughs. Circumneutral. Central and southern Mo.: Lincoln, St. Charles, Jefferson, Crawford, Stoddard, Ray, Jackson, Barton, Jasper, and Newton counties.

Heteranthera limosa (Sw.) Willd.

Slow streams, ponds, and sloughs. Circumneutral. Central and southern Mo.: Montgomery, St. Louis, Jefferson, New Madrid, Dent, Ray, Jackson, Greene, Ozark, Taney, Jasper, and McDonald counties.

Heteranthera reniformis R. & P. Mud Plantain.

Ponds and sloughs. Circumneutral. General but scattered, and mainly along the larger rivers: Lincoln, St. Charles, St. Louis, Jefferson, Dunklin, Shannon, Boone, Holt, Clay, Jackson, and Greene counties.

Heteranthera dubia (Jacq.) MacM. Water Star-grass.

Streams and sloughs. Circumneutral. Central, southern, and northwestern Mo., mainly in the Ozark region, and scattered elsewhere: St. Louis, Jefferson, Franklin, Gasconade, Crawford, Dent, Reynolds, Wayne, Butler, Dunklin, Ripley, Oregon, Carter, Texas, Pulaski, Osage, Miller, Camden, Dallas, Laclede, Douglas, Ozark, Taney, Stone, Greene, Holt, and Jackson counties.

Fam. JUNCACEAE

Juncus bufonius L. Toad Rush.

Sandy and gravelly ground along the larger rivers. Oxylophile. West-central Mo.: Clay and Jackson counties.

Juncus macer S. F. Gray. See *Jour. Bot.* 68: 366. 1930. Slender Rush.

Juncus tenuis of auth., not Willd. (G), (B & B).

Juncus monostichus Bartlett (G).

Fields, roadsides, waste ground, and wet places. Indifferent. General and common. True *Juncus tenuis* Willd. (*Juncus dichotomus* Ell. and auth.) has been misidentified in Missouri and is not known from the state. *Juncus monostichus* is considered only an abnormal form of *Juncus macer* and is treated here as identical with the latter species.

Juncus macer var. *anthelatus* (Wiegand) Fernald, *Jour. Bot.* 68: 367. 1930.

Juncus tenuis var. *anthelatus* Wiegand (G).

Occasionally found with the typical form. Scotland, Shelby, Boone, Scott, Wayne, Ripley, Mercer, Saline, and Jasper counties.

Juncus interior Wiegand.

Upland prairies and meadows. Circumneutral to oxylophile. General.

Juncus kansanus Hermann, *Papers Mich. Acad. Sci.* 20: 41. 1935.

Dry rocky open ground. Circumneutral. Northeastern Mo., local: Pike Co.

Juncus secundus Beauv.

Dry upland prairies, sandy or rocky ground. Oxylophile. Eastern and southern Mo.: Lincoln, Jefferson, St. Francois, Dent, Phelps, Texas, and Laclede counties.

Juncus Dudleyi Wiegand.

Moist prairies, meadows, and wet places along streams. Circumneutral. Central and southern Mo.: Crawford, Iron, Shannon, Phelps, Dallas, and Jackson counties.

Juncus effusus L. var. *solutus* Fernald & Wiegand, *Rh.* 12: 90. 1910. Rush.

Prairie swales and borders of ponds, sloughs, and streams. Circumneutral. General.

Juncus balticus Willd. var. *littoralis* Engelm.

Sand bars and alluvial ground along Missouri River. Circumneutral. Local: Jackson Co.

Juncus canadensis J. Gay.

Moist ground along streams. Southern Mo., local: Howell Co.

Juncus subcaudatus (Engelm.) Coville & Blake, Proc. Biol. Soc. Wash. 31: 45.

1918.

Juncus canadensis var. *subcaudatus* Engelm. (G).

Moist ground along rocky beds of streams and slopes. Calciphile. Southeastern Mo.: Texas and Iron counties.

Juncus nodosus L. Knotted Rush.

Sand bars of Missouri River. Introduced in Jackson Co.

Juncus Torreyi Coville.

Borders of ponds, sloughs, and eroded banks. Circumneutral. General. Small-headed forms of this have been confused with *J. nodosus*.

Juncus brachycarpus Engelm.

Prairies, swales, wet meadows, and wet sandy borders of small streams. Circumneutral to oxyophile. Southern and central Mo.: Boone, St. Louis, Jefferson, Crawford, Iron, Scott, Mississippi, Wayne, Shannon, Phelps, Howell, Ozark, Webster, Greene, Vernon, Jasper, McDonald, and Barry counties.

Juncus validus Coville.*Juncus polyccephalus* of auth. in part, not Michx. (G), (B & B).

Prairie swales and swampy ground. Oxyophile to circumneutral. Southwestern Mo.: Jasper and Vernon counties. This species has been confused with *Juncus polyccephalus* which is not known in Mo.

Juncus scirpooides Lam.

Wet open or swampy ground. Circumneutral. Central and southern Mo.: St. Louis, Mississippi, Wayne, Howell, and Greene counties.

Juncus acuminatus Michx. Knotty-leaved Rush.

Borders of ponds, sloughs, and ditches. Circumneutral. General.

Juncus alpinus Vill. var. *fuscescens* Fernald.

Low sandy ground along Missouri River. Circumneutral. Western Mo., local: Jackson Co.

Juncus diffusissimus Buckley.

Wet meadows, bogs, and borders of ponds, streams, and sloughs. Circumneutral to oxyophile. Central and southern Mo.: Miller, Crawford, Shannon, Ripley, Howell, Benton, Henry, Cedar, Vernon, Barton, Jasper, and McDonald counties.

Juncus nodatus Coville.*Juncus robustus* (Engelm.) Coville, not Wats. (G).

Sandy open ground, borders of streams and sloughs. Oxyophile. Southern and east-central Mo.: St. Louis, Bollinger, Wayne, Butler, Howell, Barton, and Jasper counties.

Juncus marginatus Rostk. See Rh. 37: 156. 1935.*Juncus aristulatus* Michx.

Prairies, meadows, and open sandy ground. Circumneutral to oxyophile. Eastern, central, and southern Mo.: Clark, Marion, Audrain, Boone, St. Louis, Jefferson, St. Francois, Mississippi, Dunklin, Wayne, Iron, Carter, Butler,

Ripley, Crawford, Phelps, Shannon, Howell, Henry, Cedar, Greene, Vernon, Barton, Jasper, Newton, McDonald, and Barry counties.

Juncus marginatus var. *setosus* Coville.

Occasionally found with the typical form. Southern Mo.: Shannon, Greene, Jasper, and Newton counties.

Juncus biflorus Ell. See Rh. 37: 156. 1935.

Juncus aristulatus of Bicknell and later auth., not Michx. (G).

Moist sandy open ground. Oxylophile. Southern and east-central Mo.: St. Louis, Butler, Iron, Wayne, Phelps, Texas, Greene, Jasper, Barry, and McDonald counties.

Juncus biflorus f. *adinus* Fernald & Griscom, Rh. 37: 157. 1935.

Wet meadows and swampy ground. Oxylophile. Scattered: St. Louis and Jasper counties.

Luzula campestris (L.) DC. var. *bulbosa* A. Wood.

Dry rocky prairies, meadows, glades, and dry open woods, sometimes in sandy alluvial ground. Oxylophile. Central and southern Mo. south and east of a line drawn from St. Louis, Warren, Montgomery, and Callaway counties to Henry and Vernon counties.

Fam. LILIACEAE

Amianthium muscaetoxicum (Walt.) Gray. Fly Poison.

Chrosperma muscaetoxicum (Walt.) Kuntze (B & B).

Sandy woods. Oxylophile. Southern Mo., rare and scattered: Carter, Ripley, and Greene counties.

Stenanthium gramineum (Ker) Kunth.

Moist meadows and rich woods along bluffs. Circumneutral. Eastern and middle Mo.: St. Louis, Jefferson, St. Francois, Madison, Ripley, Shannon, and Phelps counties.

Stenanthium gramineum f. *robustum* (Wats.) Palmer & Steyermark, comb. nov.

Stenanthium robustum Wats. (G), (B & B).

Moist rocky woods and thickets. Circumneutral. East-central and southern Mo., scattered: St. Louis, Lawrence, and Jasper counties.

Zigadenus elegans Pursh. See Rh. 37: 256-257. 1935.

Moist shaded limestone bluffs. Calciphile. Local: Shannon Co. This species has been confused with *Zigadenus glaucus* Nutt. (*Z. chloranthus* Richards.), which is not known to occur in Mo.

Zigadenus Nuttallii (Gray) Wats.

Toxicoscordion Nuttallii (Gray) Rydb. (B & B).

Dry rocky limestone slopes and glades. Calciphile. Local: Oregon Co.

Melanthium virginicum L. Bunch-flower.

Wet meadows, thickets, and marshy ground below bluffs. Circumneutral. General but scattered: Linn, Adair, Knox, Pike, St. Louis, Jefferson, Franklin, Washington, Phelps, Iron, Shannon, Boone, Webster, Greene, Jackson, Cass, Johnson, and Jasper counties.

***Veratrum Woodii* Robbins.** False Hellebore.

Rich or rocky woods. Circumneutral. Eastern, middle, and southern Mo.: Mercer, Sullivan, Adair, Schuyler, Knox, Shelby, Marion, Ralls, Boone, Callaway, Lincoln, Warren, St. Louis, Jefferson, Franklin, St. Francois, Madison, Bolinger, Iron, Crawford, Dent, Shannon, Reynolds, Oregon, Texas, Howell, Taney, Wright, and Barry counties.

***Uvularia grandiflora* Sm.** Straw-flower, Large Bellwort.

Rich alluvial or rocky woods. Circumneutral. General but absent from most of the western prairie counties. This species has sometimes been confused with *U. perfoliata*, which is not known in Mo.

***Oakesia sessilifolia* (L.) Wats.** Small Bellwort, Wild Oats.

Rich alluvial or low woods, and along shaded banks and bluffs. Circumneutral. Scattered, and mostly in northern Mo.: Harrison, Boone, Knox, Audrain, and Jasper counties.

***Allium cernuum* Roth.** Nodding Wild Onion.

Rocky ledges along bluffs. Calciphile. East-central and southern Mo.: Jefferson, Franklin, Washington, Crawford, Dent, Phelps, Pulaski, Shannon, and Greene counties.

***Allium stellatum* Ker.**

Glades and exposed rocky ledges along bluffs. Calciphile. Central and southern Mo.: Lincoln, St. Louis, Jefferson, Franklin, Ste. Genevieve, St. Francois, Madison, Washington, Crawford, Phelps, Maries, Pulaski, Dent, Shannon, Texas, Laclede, Boone, Henry, Benton, Dallas, Greene, Wright, Webster, Douglas, Ozark, Taney, and Barry counties.

***Allium canadense* L.** Wild Garlic.

Moist open woods, meadows, prairies, and thickets. Indifferent. General.

***Allium Nuttallii* Wats.**

Glades and dry rocky ledges. Calciphile. Southwestern Mo., local: McDonald Co.

***Allium mutabile* Michx.** Wild Onion.

Limestone glades, barrens, and prairies. Calciphile. General but mostly in central and southern Mo.: Montgomery, Jefferson, St. Francois, Madison, Iron, Dent, Maries, Laclede, Ozark, Wright, Webster, Greene, Boone, Daviess, Jackson, Vernon, Jasper, Newton, and McDonald counties.

***ALLIUM SATIVUM* L.**

Fields, waste ground, and along railroads and roadsides. Indifferent. General.

***ALLIUM VINEALE* L.** Crow Garlic.

Moist fields and meadows. Indifferent. Scattered: St. Louis, Franklin, Boone, and Jasper counties.

***Allium tricoccum* Ait.** Wild Leek.

Low rich woods and slopes along bluffs. Circumneutral. Northern and central Mo., scattered and rare: Mercer, Boone, and St. Louis counties.

***Nothoscordum bivalve* (L.) Britton.** False Garlic.

Glades, barrens, and prairies. Circumneutral. General but commonest in the Ozark region.

HEMEROCALLIS FULVA L. Day Lily.

Escaped from gardens to fields and roadsides. Indifferent. General.

LILIUUM TIGRINUM Ker. Tiger Lily.

Occasionally found as an escape from cultivation.

Lilium michiganense Farwell, Bull. Torr. Bot. Club 42: 353. 1915. Turk's-cap Lily.

Lilium superbum of auth., not L. (G), (B & B).

Rich open woods, prairie swales, and meadows. Circumneutral. General but not common: Knox, Adair, Livingston, Chariton, Mercer, Boone, Callaway, St. Louis, Jefferson, Franklin, Washington, Crawford, Dent, Iron, Saline, Jackson, Johnson, Benton, Webster, Greene, Jasper, and Newton counties.

Erythronium americanum Ker. Yellow Adder's-tongue, Yellow Dog-tooth Violet.

Rich alluvial woods along bluffs and streams. Circumneutral. Southern and east-central Mo.: Boone, St. Louis, Franklin, Ste. Genevieve, Iron, Shannon, Howell, Taney, Greene, Barry, Jasper, and McDonald counties.

Erythronium albidum Nutt. White Adder's-tongue, White Dog-tooth Violet.

Rich woods along bluffs and streams. Circumneutral. General.

Erythronium mesochoreum Knerr. Prairie Dog-tooth Violet.

Rocky prairies, glades, and dry open woods. Circumneutral to calciphile. Central and southern Mo.

Camassia hyacinthina (Raf.) Palmer & Steyermark, comb. nov. Wild hyacinth.
Lemotris hyacinthina Raf.

Camassia esculenta (Ker) Robinson, not Lindl. (G), (B & B).

Rocky glades and prairies. Calciphile to circumneutral. General.

SCILLA BIFLORA L.

Occasionally escaped from cultivation; in open woods and fields. Pike Co.

MUSCARI BOTRYOIDES (L.) Mill. Grape Hyacinth.

Escaped from cultivation; in fields and waste ground. Scattered: Jefferson and Taney counties.

Yucca glauca Nutt. Bear Grass.

Loess hills. Calciphile. Northwestern Mo.: Atchison and Holt counties.

Yucca arkansana Trelease.

Rocky open woods and bluffs. Circumneutral. Southwestern Mo.: Stone Co.

Yucca filamentosa L. Needle-and-thread, Spanish Bayonet.

Frequently escaped from cultivation; in open woods, thickets, and along railroads and roadsides. General but scattered.

ORNITHOGALUM NUTANS L. Star of Bethlehem.

Occasionally escaped from gardens to fields and lawns. Boone Co.

ORNITHOGALUM UMBELLATUM L. Star of Bethlehem.

Escaped from cultivation; in fields, meadows, and on shaded banks. Scattered: Marion, St. Louis, Jefferson, Perry, Callaway, Boone, Cole, Jackson, and Vernon counties.

ASPARAGUS OFFICINALIS L. Asparagus.

Frequently escaped from cultivation; along roads and in fields and waste ground. General.

Smilacina racemosa (L.) Desf. False Spikenard, False Solomon's Seal.

Rich or rocky woods. Circumneutral. General.

Smilacina stellata (L.) Desf. False Solomon's Seal.

Moist rich woods. Circumneutral. Northern and central Mo., scattered: Shelby, Boone, and Jackson counties.

Medeola virginiana L. Indian Cucumber-root.

Moist shaded banks along streams. Circumneutral. Northern Mo., local: Linn Co.

Polygonatum canaliculatum (Muhl.) Pursh. Large Solomon's Seal.

Polygonatum giganteum Dietr., in part (R).

Polygonatum commutatum (R. & S.) Dietr., in part (G), (B & B).

Rich or rocky woods and alluvial thickets and banks. Circumneutral. General.

Polygonatum canaliculatum var. *ovatum* (Farwell) Palmer & Steyermark, comb.

nov.

Polygonatum biflorum ovatum Farwell, Bull. Torr. Bot. Club 42: 255. 1915.

Polygonatum commutatum ovatum (Farwell) Gates.

Polygonatum ovatum (Farwell) Bush.

Rich woods and thickets. Circumneutral. Western Mo.: Jackson Co.

Trillium sessile L. Wake-Robin.

Rich alluvial or rocky woods. Circumneutral. Central and southern Mo.: St. Louis, Jefferson, Franklin, Shannon, Dent, Iron, Wayne, Oregon, Warren, Montgomery, Callaway, Audrain, Randolph, Gasconade, Osage, Moniteau, Boone, Cole, Phelps, Pulaski, Laclede, Texas, Howell, Morgan, Cooper, Chariton, Jackson, Johnson, Bates, Benton, Hickory, Polk, St. Clair, Greene, Christian, Taney, Douglas, Wright, Webster, Barry, Jasper, Newton, and McDonald counties.

Trillium sessile f. *luteum* Peattie.

Trillium sessile viridiflorum Beyer.

Occasionally found with the typical form: St. Louis and Moniteau counties.

Trillium viride Beck.

Open rocky woods and banks. Circumneutral. Eastern Mo.: Pike, Callaway, Warren, St. Louis, Franklin, and Iron counties.

Trillium viride Nutt.

Rocky or alluvial open woods. Circumneutral. Southwestern Mo.: Ozark, Taney, Stone, and Barry counties.

Trillium recurvatum Beck.

Rich alluvial woods and thickets and rocky slopes or base of bluffs. Circumneutral to calciphile. Eastern and central Mo., and locally southwestwards to Douglas Co.: St. Louis, Jefferson, Franklin, Washington, St. Francois, Ste. Genevieve, Perry, Cape Girardeau, Bollinger, Dunklin, Butler, Ripley, Wayne, Iron, Carter, Oregon, Boone, Howard, Cooper, Saline, Howell, and Douglas counties.

Trillium recurvatum f. *Shayi* Palmer & Steyermark, nom. nov.

Trillium recurvatum f. *luteum* Friesner, Butler Univ. Bot. Stud. 3: 31. 1929,
not *Trillium recurvatum* f. *luteum* Clute, Am. Bot. 28: 79. 1922.

Rich woods. Circumneutral. East-central Mo., local: St. Louis Co.

A typo differt petalis staminibusque luteis vel viridi-luteis.

This form appears identical with that described by Friesner. The *Trillium recurvatum* forma *luteum* described by Clute has the claws, the petals, and the stamens brownish-red, and therefore cannot be considered the same as the yellow-flowered form in Missouri in which the petals, including the claws, are throughout yellow or greenish-yellow as are the stamens.

This form is dedicated to Mr. W. F. Shay, Head of the Biology Department at Normandy High School, Missouri, who first called attention to it.

Collected at Monarch Hill, near Monarch, St. Louis Co., Mo., April 29, 1935, by *W. F. Shay* (Mo. Bot. Gard.).

Trillium Gleasoni Fernald, Rh. 34: 21-22. 1932.

Trillium declinatum (Gray) Gleason, not Raf. (G), (B & B).

Rich rocky or alluvial woods. Circumneutral. Eastern and middle Mo.: Ralls, Boone, Callaway, Warren, St. Charles, St. Louis, Jefferson, Franklin, St. Francois, Perry, Scott, and Wayne counties.

Trillium ozarkanum Palmer & Steyermark, sp. nov.

Rocky or alluvial ground. Circumneutral to oxylophile. Southwestern Mo., local: Barry Co.

Planta rhizomate crasso elongato fere horizontale; caule purpureo vel interdum in parte superiore viridi, 1-3 dm. alto; foliis lanceolatis elliptico-oblongis vel oblongo-ovatis, firme membranaceis, apice obtusis basi late cuneatis vel subito in petiolum brevisimum contractis, 4-8.5 cm. longis, 1-2.5 cm. latis, manifeste quinque-nerviis; pedunculo erecto, 1.5-3 cm. longo; sepalis oblongo-linearibus vel oblongo-ovatis, 1.5-4 cm. longis, 0.5-1.6 cm. latis, quinque-nerviis (vel raro tri-nerviis), petalis plerumque longioribus; petalis oblongo-lanceolatis vel anguste ovatis, intus candidis ad roseis vel rubro-purpureis, extus plerumque magis coloratis vel interdum utrinque intense roseo-purpureis; filamentis 2.5-5 mm. longis; antheris oblongo-linearibus, 4.5-9 mm. longis; stigmatibus basi connatis apice reflexis; fructu ovoides vel subgloboso, 0.8-1 cm. longo, 0.7-0.8 cm. lato.

Rootstock thickened and elongated; stems 1-3 dm. tall, dark purple below and sometimes green in upper portion; leaves forest-green to grass-green, firmly membranaceous, dull above, lustrous beneath, lanceolate or oblong-elliptic to oblong-ovate, obtuse at apex, broadly cuneate at base, subsessile or abruptly contracted into very short petiolules, 4-8.5 (rarely 3.5) cm. long, 1-2.5 cm. broad; peduncle erect, 1.5-3 cm. long; sepals spreading, conspicuously veined with 5 (rarely 3) principal veins, linear-oblong to broadly oblong-ovate, obtuse or rounded at apex, 1.5-4 cm. long, 0.5-1.6 cm. broad, usually exceeding the petals; petals varying from pure white to pinkish or rose-purple within, usually more deeply colored without, or sometimes rich rose-purple on both sides, spreading or slightly recurved at tips, oblong-lanceolate to ovate, broadest near the base, obtuse to acute at apex, 1.6-3.4 cm. long, 0.5-1.8 cm. broad; stamens in

anthesis equaling or somewhat exceeding the stigmas, the filaments short, 2.5–5 mm. long, anthers straight, 4.5–9 mm. long; stigmas united at base, spreading and recurved at apex; ovary white or pale green; fruit ovoid to subglobose, 0.8–1 cm. long, 0.7–0.8 cm. broad.

Distribution: Cherty soil of low wooded slopes and along small draws in upland oak woods; western Ozark region, northwestern Arkansas, and southwestern Missouri.

This new species adds another to the numerous endemics of the Ozark region, several of which are confined to the northwestern portion. While closely related to *Trillium pusillum* Michx., of the Atlantic Coastal Plain, and to *Trillium texanum* Buckley, of eastern Texas, *Trillium ozarkanum* has several characters that mark it as distinct from either of these species. The leaves and sepals average much broader and have normally five instead of three principal veins, which stand out more prominently; the petals are also much longer and broader on the average, and the peduncles are distinctly longer. The habitat, in comparatively dry cherty soil on wooded slopes of deciduous upland woods, is quite different from that of the other two related species.

MISSOURI: in cherty soil along slopes of a draw in upland oak-chinquapin woods, 3 mi. south of Cassville, Barry Co., April 20, 1935, J. A. Steyermark 18628 (Mo. Bot. Gard. Herb. TYPE); 5 mi. s. of Cassville, April 13, 1930, C. Shoop, (Shoop Herb. and Univ. Mo. Herb.); ARKANSAS: in woods, dry rocky chert soil, Boone Co., March 28, 1921, J. T. Buchholz (Mo. Bot. Gard. Herb. and Univ. Ark. Herb.); wooded slope in chert hills southwest of Elm Springs, Washington Co., June 1, 1923, J. T. Buchholz (Mo. Bot. Gard. Herb. and Univ. Ark. Herb.); in Boone chert, flinty limestone soil, Osage, April 20, May 10, 1922, J. T. Buchholz (Gray Herb.); Withrow Springs, Madison Co., April 15, 1928, Moore & Demaree 4803 (Mo. Bot. Gard. Herb.); same locality, May 10, 1924, E. J. Palmer 24801 (Palmer Herb.).

Trillium nivale Riddell. Snowy Wake-Robin.

Rich and rocky woods along streams and moist shaded ledges. Circumneutral. Southern and central Mo.: Callaway and Texas counties. Rare and local.

Smilax herbacea L. Carrion-flower.

Rich alluvial woods and thickets. Circumneutral. General.

Smilax herbacea var. *pulverulenta* (Michx.) Gray.

Rich or rocky woods and thickets. Circumneutral. General, but scattered: Adair, Dallas, Pike, Jefferson, Shannon, Texas, Boone, Jackson, Greene, Lawrence, and Jasper counties.

Smilax herbacea var. *lasioneuron* (Hook.) A. DC.

Occasionally found with the typical form. Circumneutral. General but scattered: St. Louis, Jefferson, Shannon, Wright, Adair, Mercer, Jackson, Cass, Greene, and Jasper counties.

Smilax ecirrhata (Engelm.) Wats.

Rocky woods. Circumneutral. General but not common: Harrison, Gentry, Putnam, Schuyler, Clark, Macon, Shelby, St. Louis, Jefferson, Franklin, Phelps, Miller, Morgan, Boone, and Jasper counties.

Smilax rotundifolia L. var. *quadrangularis* (Muhl.) Wood. Cat-brier.

Moist alluvial grounds, woods, and thickets. Circumneutral to oxylophile. Southeastern Mo.: Madison, Bollinger, Mississippi, New Madrid, Dunklin, Butler, Ripley, and Oregon counties. Forms of *S. hispida* and *S. bona-nox* have often been confused with this. The typical var. is probably not found in Mo.

Smilax hispida Muhl. Bristly Green-brier.

Woods, thickets, and banks of streams. Circumneutral. General.

Smilax bona-nox L. Stretch-berry, Green-brier.

Rocky open woods, thickets, and fields. Oxylophile to circumneutral. Southern and east-central Mo.: St. Louis, Jefferson, Perry, Cape Girardeau, Mississippi, New Madrid, Madison, Bollinger, Iron, Wayne, Butler, Dunklin, Ripley, Oregon, Howell, Carter, Shannon, Reynolds, Dent, Phelps, Texas, Douglas, Wright, Webster, Ozark, Taney, Stone, Barry, Jasper, Newton, and McDonald counties.

Smilax glauca Walt. var. *genuina* Blake, Rh. 20: 79. 1918.

Rocky open woods and wet open ground. Oxylophile. Southeastern Mo.: Madison, Carter, and Dunklin counties. Less common than the next following.

Smilax glauca var. *leurophylla* Blake, Rh. 20: 80. 1918.

Rocky open woods, fields, and wet open ground. Oxylophile. Southeastern Mo.: Ste. Genevieve, St. Francois, Cape Girardeau, Bollinger, Madison, Iron, Wayne, Carter, Stoddard, Scott, Mississippi, New Madrid, Dunklin, Butler, Ripley, and Oregon counties.

Fam. DIOSCOREACEAE

Dioscorea quaternata (Walt.) Gmel. See Rh. 36: 345. 1934.

Dioscorea glauca Muhl. (S).

Rich woods and thickets, rocky ground at base of bluffs, and talus slopes. Circumneutral. Southern Mo.: Jefferson, Madison, Bollinger, Ste. Genevieve, Wayne, Carter, Iron, Shannon, Crawford, Ripley, Oregon, Texas, Taney, and Ozark counties.

Dioscorea villosa L. See Rh. 20: 48. 1918. Wild Yam.

Rich rocky woods and thickets. Circumneutral. General.

Dioscorea villosa var. *glabrifolia* (Bartlett) Blake, Rh. 20: 49. 1918.

Occasionally found with the typical form. Scattered: Perry, Daviess, Macon, Boone, Jackson, Cass, Henry, Jasper, Newton, McDonald, and Stone counties.

Fam. AMARYLLIDACEAE

NARCISSUS POETICUS L. Poet's Narcissus.

Occasionally escaped from gardens into abandoned fields, meadows, and waste places.

Hymenocallis occidentalis (LeConte) Kunth. Spider-lily.

Swamps and low wet woods. Circumneutral. Southeastern Mo.: Pemiscot, Dunklin, Butler, and Ripley counties.

Agave virginica L. False Aloe.

Rocky open woods and glades. Calciphile. Southern and east-central Mo.,

south of a line drawn from St. Louis to the southwestern corner of the state: St. Louis, Jefferson, Franklin, Ste. Genevieve, Perry, Washington, Madison, Bollinger, Dunklin, Ripley, Carter, Oregon, Dent, Howell, Shannon, Texas, Pulaski, Douglas, Ozark, Taney, Stone, Wright, Greene, Barry, and McDonald counties.

Agave virginica f. *tigrina* (Engelm.) Palmer & Steyermark, comb. nov.

Agave virginica var. *tigrina* Engelm. Trans. Acad. Sci. St. Louis 3: 302. 1876.
Occasionally occurring with the species in Missouri.

Hypoxis hirsuta (L.) Coville. Yellow Star-grass.

Dry open woods, thickets, glades, and rocky prairies. Oxyophile. General.

Hypoxis hirsuta var. *leptocarpa* (Engelm. & Gray) Brackett. Rh. 25: 127. 1923
Moist sandy ground. Oxyophile. Local: Ste. Genevieve Co.

Fam. IRIDACEAE

Iris virginica L. Wild Blue Flag.

Iris Shrevei Small (S).

Iris caroliniana Wats. (G), in part.

Iris versicolor of auth., not L. (G), (B & B), in part.

Swamps and borders of ponds and sloughs. Circumneutral. General.

Iris fulva Ker. Red Iris.

Swampy woods, and borders of sloughs and bayous. Circumneutral. South-eastern Mo.: Perry, Scott, Dunklin, Butler, and Ripley counties.

Iris foetidissima Mack. & Bush.

Sloughs, wet meadows, and borders of low woods. Circumneutral. Central Mo., along the larger rivers: Marion, St. Louis, Jefferson, Washington, Boone, and Jackson counties.

Iris pseudacorus L. Yellow Flag.

Cultivated in old gardens and occasionally escaped to fields and roadsides.

Iris pallida Lam. Blue Flag, Fleur-de-lis.

Cultivated and escaping to roadsides and waste ground.

Iris cristata Ait. Dwarf Wild Iris.

Rocky woods, sandy banks and ledges along bluffs. Oxyophile to circumneutral. Usually growing on sandstone, chert, or granitic rocks, rarely on limestone. Southeastern Mo.: Reynolds, Wayne, Carter, Ripley, Shannon, and Oregon counties.

Iris pumila L.

Escaped from cultivation. Fields, meadows, and wet glades. Scattered: Washington and Boone counties.

Nemastylis acuta (Bart.) Herb.

Limestone glades and rocky prairies. Calciphile. Central and southern Mo., scattered and rare: Franklin, Washington, Ste. Genevieve, Iron, Wright, Taney, and Cass counties.

BELAMCANDA CHINENSIS (L.) DC. Blackberry Lily.

Cultivated in old gardens, and escaped and well established in thickets, glades, and rocky open woods. Circumneutral. General.

Sisyrinchium albidum Raf.

Meadows and open woods. Circumneutral. Eastern and middle Mo.: Randolph, St. Louis, Jefferson, Franklin, Washington, Ste. Genevieve, and Iron counties. This and other species of *Sisyrinchium* have sometimes been confused with *S. angustifolium* which is not known in Mo.

Sisyrinchium flaviflorum Bicknell.

Post-oak woods. Oxylophile. Western Mo., local: Jackson Co.

Sisyrinchium campestre Bicknell. Blue-eyed Grass.

Prairies, meadows, glades, and open rocky woods. Circumneutral. General.

Sisyrinchium campestre var. *kansanum* Bicknell.

Rocky prairies, glades, and open woods. Circumneutral. Southwestern Mo.: Jasper, Newton, and Barry counties.

Sisyrinchium graminoides Bicknell.

Sisyrinchium gramineum Curtis, not Lam. (G).

Rocky open woods, meadows, and prairies. Circumneutral. General.

Fam. MARANTACEAE

Thalia dealbata Roscoe.

Swamps. Circumneutral. Southeastern Mo., local: Butler Co.

Fam. ORCHIDACEAE

Cypripedium parviflorum Salisb. Yellow Lady's Slipper.

Rich rocky ground, and moist shaded hillsides. Circumneutral. General but scattered and commonest in the western half of the state: Boone, Callaway, Crawford, Phelps, Shannon, Nodaway, Grundy, Saline, Jackson, Johnson, Greene, Stone, Lawrence, Jasper, Newton, and McDonald counties.

Cypripedium parviflorum var. *pubescens* (Willd.) Knight. Large Yellow Lady's Slipper.

Moist alluvial banks and rich rocky woods. Circumneutral. General but scattered and commonest in eastern and northern Mo.: Warren, Pike, St. Louis, Jefferson, Franklin, Washington, Crawford, Dent, Wayne, Carter, Ripley, Schuyler, Adair, Putnam, Mercer, Harrison, Jackson, and Greene counties.

Cypripedium candidum Muhl. Small White Lady's Slipper.

Rich rocky woods at the base of bluffs. Circumneutral. Scattered and rare: St. Louis, Shannon, Atchison, and Andrew counties.

Cypripedium Reginae Walt. Showy Lady's Slipper.

Cypripedium hirsutum of some Am. auth., not Mill. (G).

Rich rocky or moist woods and bluffs. Caleiphile to circumneutral. Scattered: Putnam, Iron, Shannon, Texas, and Ozark counties.

Orchis spectabilis L. Showy Orchis.

Rich moist woods. Circumneutral. General but uncommon: St. Louis, Jefferson, Franklin, Bollinger, Iron, Reynolds, Dunklin, Schuyler, Adair, Sullivan, Warren, Boone, Ray, Clay, Platte, Jackson, Greene, and Taney counties.

Habenaria flava (L.) Gray var. *virescens* (Muhl.) Fernald. See *Rh.* 23: 148.
1921. Yellow Orchis.

Wet woods, borders of swamps and bogs. Circumneutral to oxylophile. General but scattered and mostly in eastern and northern Mo.: Schuyler, Livingston, St. Louis, Jefferson, Iron, Butler, Dunklin, Shannon, and Howell counties.

Habenaria clavellata (Michx.) Spreng. Green Wood Orchis.

Borders of swamps and bayous. Oxylophile. Southeastern Mo., local: Dunklin Co.

Habenaria ciliaris (L.) R. Br. Yellow Fringed Orchis.

Pine woods and moist wooded slopes. Oxylophile. Southeastern Mo.: Iron and Ripley counties.

Habenaria lacera (Michx.) R. Br. Ragged Orchis.

Moist meadows and prairies. Circumneutral. Scattered: Audrain, Boone, Callaway, St. Louis, and Shannon counties, and also reported from Greene Co.

Habenaria peramoena Gray. Purple Fringed Orchis.

Low borders of lakes, wet rocky ground about springs, and low rich woods along streams. Oxylophile. Southeastern Mo.: Iron, Carter, Bollinger, Ripley, Butler, and Dunklin counties.

Habenaria leucophaea (Nutt.) Gray. White-flowered Prairie Orchis.

Prairies and meadows. Circumneutral. Scattered: Ralls, St. Louis, Jefferson, Madison, Clinton, Jackson, Vernon, and Greene counties.

Pogonia trianthophora (Sw.) BSP. Nodding Log Orchis.

Rich low woods. Circumneutral. Central and southern Mo.: Boone, St. Louis, Jefferson, Franklin, Bollinger, Mississippi, Dunklin, Butler, Shannon, Jackson, and Jasper counties.

Isotria affinis (Aust.) Rydb.

Pogonia affinis Aust. (G).

Wooded limestone hills. Calciphile. Southeastern Mo., local: Bollinger Co.

Calopogon pulchellus (Sw.) R. Br. Grass Pink.

Moist rich woods. Circumneutral. Scattered and rare: Shannon and Greene counties.

Epipactis latifolia (L.) All. Helleborine.

Serapias Helleborine of auth., not L. (G), (B & B).

Wet gravelly soil at base of bluff. Oxylophile. Southwestern Mo., local: Jasper Co.

Spiranthes Beckii Lindl. Little Ladies' Tresses.

Prairies, open rocky woods, and dry meadows. Oxylophile to circumneutral. East-central and southern Mo.: St. Louis, Ste. Genevieve, Scott, Franklin, Gasconade, Crawford, Dent, Shannon, Oregon, Texas, Greene, and Jasper counties.

Spiranthes gracilis (Bigel.) Beck. Slender Ladies' Tresses.

Dry open woods. Oxylophile. Central and southern Mo.: St. Louis, Jefferson, Franklin, Ste. Genevieve, Iron, Reynolds, Dent, Shannon, Oregon, Texas, Randolph, Boone, Jackson, Dade, Greene, Taney, Stone, Barry, Jasper, Newton, and McDonald counties.

Spiranthes vernalis Engelm. & Gray.

Prairies and dry meadows. Circumneutral. Central and southern Mo., scattered: St. Louis, Jefferson, Jackson, Barton, and Jasper counties.

Spiranthes lucida (H. H. Eaton) Ames.

Moist sandstone ledges along creek and springy ground. Oxylophile. Southeastern Mo.: Texas and Shannon counties. This species blooms during May.

Spiranthes ovalis Lindl.

Rich or low wet woods. Circumneutral. Central and southern Mo., rare and scattered: St. Louis, Mississippi, and Jackson counties.

Spiranthes cernua (L.) Richard. Nodding Ladies' Tresses.

Prairies, meadows, and moist places in glades. Circumneutral. General.

Spiranthes cernua var. *ochroleuca* (Rydb.) Ames.

Prairies and glades. Circumneutral. Central and southern Mo.: Boone, Shannon, Taney, Stone, Barry, Jasper, and Newton counties.

Goodyera pubescens (Willd.) R. Br. Downy Rattlesnake Plantain.

Epipactis pubescens (Willd.) A. A. Eaton (G).

Perromium pubescens (Willd.) MacM. (B & B).

Moist, rich, sandy soil, in wooded ravines. Oxylophile. Southeastern Mo., local: Ste. Genevieve Co.

Corallorrhiza Wisteriana Conrad. Coral-root.

Rich or rocky open woods. Circumneutral. Central and southern Mo.: St. Louis, Jefferson, Franklin, St. Francois, Madison, Boone, Jackson, Greene, Lawrence, and Jasper counties.

Corallorrhiza odontorhiza Nutt. Small Coral-root.

Moist rich woods. Circumneutral. East-central and southern Mo.: St. Louis, Jefferson, Franklin, Ste. Genevieve, Dunklin, Shannon, and Jasper counties.

Corallorrhiza trifida Chatelain. Yellow Coral-root.

Moist rich hillsides. Circumneutral. Southwestern Mo., rare and local: Lawrence Co.

Malaxis unifolia Michx. See Rh. 28: 176. 1926. Adder's-mouth.

Microstylis unifolia (Michx.) BSP. (G).

Dry rich woods. Oxylophile. East-central and southern Mo.: St. Louis, Jefferson, Franklin, Ste. Genevieve, Shannon, Howell, and Greene counties.

Liparis liliifolia (L.) Richard. Large Twayblade.

Dry open woods and hillsides. Oxylophile to circumneutral. General, but uncommon and apparently absent from much of western Mo.: Mercer, Sullivan, Schuyler, Clark, Lewis, Boone, Callaway, St. Louis, Jefferson, Franklin, Ste. Genevieve, Cape Girardeau, Dunklin, Phelps, Reynolds, Shannon, Texas, Howell, Douglas, Ozark, Greene, Jasper, and McDonald counties.

Aplectrum hyemale (Muhl.) Torr. Putty-root, Adam-and-Eve.

Rich or alluvial woods. Circumneutral. Central and southern Mo.: Boone, Callaway, Warren, St. Charles, St. Louis, Jefferson, Franklin, Ste. Genevieve, Washington, Madison, Iron, Wayne, Clay, Jackson, and Greene counties.

Hexalectris spicata (Walt.) Barnh. See Rh. 17: 136. 1915. Crested Coral-root.

Hexalectris aphylla (Nutt.) Raf. (G), (B & B).

Rich rocky woods. Oxyophile to circumneutral. Eastern Mo. south of the Missouri River, rare: St. Louis, Jefferson, Franklin, Dunklin, Phelps, Pulaski, and Texas counties.

Fam. PIPERACEAE

Saururus cernuus L. Lizard's-tail.

Swampy woods and borders of sloughs and sluggish streams. Circumneutral. Central and southern Mo.: Gasconade, Franklin, St. Louis, Jefferson, Bollinger, Mississippi, New Madrid, Pemiscot, Dunklin, Butler, Ripley, Carter, Wayne, Iron, Oregon, Reynolds, Shannon, Dent, Crawford, Texas, Phelps, Maries, Osage, Camden, Pulaski, Laclede, Dallas, Greene, Barry, Barton, Jasper, Newton, and McDonald counties.

Fam. SALICACEAE

Salix nigra Marsh. Black Willow.

Low woods and borders of streams, sloughs, and ponds. Circumneutral. General.

Salix longipes Shattl. var. *Wardii* (Bebb) Schneider, Bot. Gaz. 65: 22. 1918.

Ward's Willow.

Salix Wardii Bebb (G), (B & B).

Rocky banks of streams. Oxyophile to circumneutral. Southern and central Mo. and locally northward along Missouri and Mississippi rivers.

Salix amygdaloides Anders. Peach-leaved Willow.

Low woods and alluvial banks of streams, especially along the larger rivers. Circumneutral. Northern, central, and eastern Mo., absent from most of the Ozark region.

SALIX ALBA L. White Willow.

Moist ground along banks of streams and ponds. Circumneutral. Often planted and escaping. General but scattered.

SALIX ALBA VAR. *VITELLINA* (L.) Koch.

In similar situations to the typical form and more common in cultivation and as an escape.

SALIX ALBA VAR. *CALVA* G. F. W. Mey.

Salix coerulea (Sm.) K. Koch.

Occasionally found as an escape, in similar situations to the last.

SALIX FRAGILIS L. Crack Willow, Brittle Willow.

Low grounds along streams. Scattered: St. Louis, Atchison, and Dekalb counties.

Salix interior Rowlee. Sand-bar Willow.

Salix longifolia Muhl., not Lam. (G).

Wet alluvial banks and sand-bars along streams and ponds. Circumneutral. General.

Salix interior var. *Wheeleri* Rowlee, Bull. Torr. Bot. Club 27: 253, pl. 9. 1900.
Alluvial banks and sand bars along streams. Circumneutral. Scattered: Clark, Monroe, Clay, and Jackson counties.

SALIX BABYLONICA L. Weeping Willow.

Escaped from cultivation in Jackson Co.

Salix cordata Muhl. Heart-leaved Willow.

Wet open ground along streams and about springs. Oxylophile to circumneutral. General but not common: Clark, Lewis, Knox, St. Louis, Ste. Genevieve, Perry, Washington, Iron, Madison, Wayne, Carter, Gasconade, Shannon, Texas, Howell, Wright, Douglas, Schuyler, Adair, Putnam, Sullivan, Linn, Saline, Boone, Cooper, Benton, Polk, Greene, Taney, Mercer, Gentry, Livingston, Harrison, Worth, Atchison, Jackson, Bates, Vernon, Jasper, and Lawrence counties.

Salix cordata var. *angustata* Anders.

Moist ground along streams. Oxylophile to circumneutral. Scattered, mainly in northern Mo.: Clark, Knox, Schuyler, Adair, Wayne, Sullivan, Grundy, Harrison, Nodaway, Saline, and Jackson counties.

Salix missouriensis Bebb.

Salix cordata var. *myricoides* (Muhl.) Carey (G), in part.

Low wet ground, mainly along the larger rivers. Circumneutral. Northern, central, and eastern Mo.: Clark, Marion, Boone, Warren, St. Louis, Cape Girardeau, Worth, Atchison, Holt, Clay, and Jackson counties.

Salix discolor Muhl. Pussy Willow.

Low ground along streams. Circumneutral. Northeastern Mo., local: Clark Co.

Salix petiolaris Sm.

Low wet ground along streams. Circumneutral. Northeastern Mo.: Marion and Pike counties.

Salix humilis Marsh. Prairie Willow.

Prairies, thickets, and open woods. Oxylophile to circumneutral. General.

Salix humilis var. *rigidiuscula* Anders.

In similar situations to the preceding. Circumneutral. Scattered: Shannon, Atchison, Holt, and Jackson counties.

Salix tristis Ait. Dwarf Gray Willow, Dwarf Pussy Willow.

Dry prairies and rocky or gravelly banks. Circumneutral to oxylophile. Scattered: Pike, Dent, Phelps, Putnam, Sullivan, Harrison, and Jackson counties.

Salix sericea Marsh. Silky Willow.

Along small rocky streams and in boggy ground about springs. Oxylophile. Eastern Ozark region: St. Louis, Washington, St. Francois, Perry, Cape Girardeau, Bollinger, Madison, Iron, Carter, and Texas counties.

SALIX PURPUREA L. Purple Willow.

Moist or wet ground. Cultivated and occasionally escaped. Pike Co.

Salix myricoides Muhl.

A hybrid between *Salix cordata* and *S. sericea*. Local: St. Louis Co.

Salix humilis × *missouriensis*.

Wet ground along streams. Jackson Co.

Salix longipes var. *Wardii* × *sericea*.

Wet rocky ground. St. Francois Co.

Salix cordata × *longipes* var. *Wardii*.

Along rocky streams. Taney Co.

Salix cordata × *nigra*.

Low open ground. Atchison Co.

Salix cordata × *humilis*.

Low ground along small streams. Putnam Co.

Salix longipes var. *Wardii* × *nigra*.

Along rocky streams. St. Louis, St. Francois, Iron, Dunklin, and Jasper counties.

Salix amygdaloidea × *nigra*.

Low ground along river. St. Louis Co.

Populus deltoides Marsh. Cottonwood.

Populus balsamifera of recent auth., and perhaps of L., in part.

Moist or wet, usually alluvial, ground along streams. Circumneutral. General and probably in every county.

Populus deltoides f. *pilosa* (Sarg.) Sudw.

Populus balsamifera var. *pilosa* Sarg.

Swamps and low woods. Circumneutral. Southeastern Mo., local: Dunklin Co.

Populus canadensis Moench. var. *EUGENEI* (Simon-Louis) Schelle. Carolina Poplar.

Frequently planted under the name of Carolina Poplar and occasionally escaping in thickets and along streams. Jasper Co.

Populus tremuloides Michx. Quaking Aspen.

Thickets and borders of upland woods. Circumneutral to oxyophile. Northeastern Mo.: Clark and Adair counties, and also reported from Sullivan Co.

Populus grandidentata Michx. Large-toothed Aspen.

In similar situations to the last. Local: Clark Co. Probably introduced or escaped from cultivation.

Populus alba L. Silver Poplar.

Commonly planted and escaping freely into thickets and along fence rows and borders of small streams. Scattered: Ralls, Pike, St. Louis, Franklin, Reynolds, Dent, Boone, Mercer, Vernon, and Jasper counties.

Populus heterophylla L. Downy Poplar, Swamp Cottonwood.

Swamps and low wet woods. Circumneutral. Southeastern Mo.: Cape Girardeau, Bollinger, Scott, Mississippi, New Madrid, Pemiscot, Dunklin, Stoddard, Wayne, Butler, and Ripley counties.

Fam. LEITNERIACEAE

Leitneria floridana Chapm. Cork Wood.

Deep swamps. Circumneutral. Southeastern Mo.: Dunklin, Butler, and Ripley counties.

Fam. JUGLANDACEAE

Juglans nigra L. Black Walnut.

Rich or open woods, along streams. Circumneutral to calciphile. General and probably found in every county.

Juglans cinerea L. Butternut.

Rich woods and along bluffs. Circumneutral. General except in extreme western part of state, but nowhere common: Clark, Schuyler, Sullivan, Adair, Lewis, Macon, Shelby, Marion, Monroe, Ralls, Pike, Lincoln, Audrain, St. Louis, Jefferson, Franklin, St. Francois, Iron, Madison, Bollinger, Cape Girardeau, Scott, Mississippi, Stoddard, Dunklin, Butler, Wayne, Carter, Ripley, Reynolds, Shannon, Oregon, Texas, Crawford, Dent, Phelps, Pulaski, Maries, Boone, Howard, Cooper, Saline, Lafayette, Henry, Morgan, Miller, Camden, Benton, Hickory, Dallas, Laclede, Wright, Douglas, Ozark, Taney, Greene, and Stone counties.

Carya Pecan (Marsh.) Engl. & Graebn. Pecan.

Carya illinoensis (Wang.) K. Koch (G).

Hicoria Pecan (Marsh.) Britton (B & B).

Low woods and alluvial ground along streams. Circumneutral. General but most frequent along the larger rivers: Clark, Lewis, Pike, Lincoln, Montgomery, St. Charles, St. Louis, Jefferson, Ste. Genevieve, Perry, Cape Girardeau, Bollinger, Mississippi, Pemiscot, Dunklin, Ripley, Ozark, Gasconade, Maries, Cole, Morgan, Cooper, Howard, Carroll, Adair, Livingston, Platte, Clay, Jackson, Henry, Bates, Vernon, Jasper, and McDonald counties.

Carya aquatica (Michx. f.) Nutt. Bitter Pecan, Swamp Hickory.

Swamps and low wet woods. Circumneutral. Southeastern Mo.: Bollinger, Scott, Dunklin, and Butler counties.

Carya cordiformis (Wang.) K. Koch. Pignut Hickory, Bitternut Hickory.

Hicoria cordiformis (Wang.) Britton (B & B).

Woods, usually in moist ground along streams. Circumneutral. General.

Carya cordiformis var. *latifolia* Sarg. Trees & Shrubs 2: 206. 1913.

In similar situations to the typical form. Circumneutral. General but not common: Clark, Marion, Shelby, Shannon, Mereer, Harrison, Nodaway, Jackson, Jasper, and McDonald counties.

Carya ovata (Mill.) K. Koch. Shag-bark or Shell-bark Hickory.

Hicoria ovata (Mill.) Britton (B & B).

Woods, limestone hills, and borders of streams. Calciphile. General and found in nearly all if not all counties of the states, though uncommon in some parts of the Ozark region.

Carya ovata var. *ellipsoidalis* Sarg. Bot. Gaz. 66: 235. 1918.

Occasionally found with the typical form. Scattered: Marion, Ralls, and Johnson counties.

Carya laciniosa (Michx. f.) Loud. Kingnut, Big Shell-bark Hickory.

Low alluvial woods along streams. Circumneutral. General except in most of the Ozark region: Clark, Scotland, Schuyler, Putnam, Mereer, Adair, Livingston, Linn, Macon, Shelby, Chariton, Monroe, Audrain, Lincoln, St. Louis, Jeff-

erson, Cape Girardeau, Bollinger, Madison, Scott, Mississippi, Pemiscot, Dunklin, Stoddard, Wayne, Butler, Ripley, Maries, Cole, Moniteau, Boone, Gentry, Atchison, Jackson, Johnson, St. Clair, Hickory, Cedar, Lawrence, Vernon, Barton, and Jasper counties.

Carya tomentosa Nutt. Mockernut, White Hickory.

Carya alba (L.) K. Koch, not Nutt. (G), (B & B).

Dry upland woods. Oxylophile. Usually on sandstone, chert, or igneous rocks. General.

Carya tomentosa f. *ficoidea* (Sarg.) Palmer & Steyermark, comb. nov.

Carya alba var. *ficoidea* Sarg. Trees & Shrubs 2: 206. 1913.

Dry upland woods. Oxylophile. Southwestern Mo.: Jasper Co.

Carya tomentosa f. *ovoidea* (Sarg.) Palmer & Steyermark, comb. nov.

Carya alba var. *ovoidea* Sarg. Bot. Gaz. 66: 238. 1918.

Rocky upland woods. Oxylophile. Southwestern Mo.: McDonald Co.

Carya tomentosa var. *subcoreacea* (Sarg.) Palmer & Steyermark, comb. nov.

Carya alba var. *subcoreacea* Sarg. Trees & Shrubs 2: 207. 1913.

Dry upland woods. Oxylophile. Southern Mo.: Dunklin, Shannon, Texas, Barry, and McDonald counties.

Carya Buckleyi Durand var. *arkansana* Sarg. Bot. Gaz. 66: 249. 1918.

Dry and rocky upland woods. Oxylophile. Eastern, central, and southern Mo.: Marion, Ralls, Pike, St. Louis, Jefferson, Ste. Genevieve, Perry, Dunklin, Butler, Wayne, Carter, Ripley, Oregon, Howell, Shannon, Texas, Iron, Dent, Washington, Crawford, Phelps, Pulaski, Maries, Gasconade, Boone, Saline, Moniteau, Pettis, Jackson, Henry, Benton, Camden, Hickory, Dallas, Polk, Cedar, Vernon, Dade, Douglas, Ozark, Taney, Stone, Barry, Jasper, Newton, and McDonald counties.

Carya Buckleyi var. *villosa* Sarg. Bot. Gaz. 66: 251. 1918.

Carya glabra var. *villosa* (Sarg.) Robinson (G).

Hicoria villosa (Sarg.) Ashe (B & B).

Dry and rocky upland woods. Oxylophile. Eastern, central, and southern Mo.: Marion, Ralls, St. Louis, Ste. Genevieve, Iron, Bollinger, Dunklin, Howell, Phelps, Pettis, Jackson, Jasper, and McDonald counties.

Carya glabra (Mill.) Spach.

Upland woods. Oxylophile. Southeastern Mo.: Cape Girardeau and Dunklin counties.

Carya ovalis (Wang.) Sarg.

Dry or rocky upland woods. Oxylophile. Southeastern Mo.: Ste. Genevieve and Dunklin counties.

Carya ovalis var. *obovalis* Sarg. Trees & Shrubs 2: 209. 1913.

Carya glabra (Mill.) Spach, in part (G).

Hicoria glabra (Mill.) Britton, in part (B & B).

Dry and rocky upland woods. Oxylophile. Eastern and southern Mo.: Marion, Ralls, Pike, St. Louis, Washington, Iron, Madison, Cape Girardeau, Mississippi, Dunklin, Butler, Wayne, Shannon, Ozark, Taney, Stone, Greene, Benton, Hickory, St. Clair, Jasper, and Newton counties.

Carya ovalis var. *odorata* Sarg. *Trees & Shrubs* 2: 208. 1913.

Carya microcarpa Nutt., in part (G).

Hicoria microcarpa (Nutt.) Britton, in part (B & B).

Rocky upland woods. Oxylophile. Southeastern Mo., in the Iron Mountain sub-region: Iron and Madison counties.

Carya ovalis var. *obcordata* Sarg. *Trees & Shrubs* 2: 208. 1913.

Carya microcarpa Nutt., in part (G).

Hicoria microcarpa (Nutt.) Britton, in part (B & B).

Dry and rocky uplands. Oxylophile. Eastern, central, and southern Mo.: Marion, St. Louis, Iron, Madison, Bollinger, Dunklin, Ripley, Shannon, Boone, Howard, Cooper, Saline, Pettis, Johnson, Douglas, Ozark, Taney, Stone, Cedar, Vernon, Barton, Jasper, and McDonald counties.

Carya ovalis var. *obcordata* f. *vestita* Sarg. *Bot. Gaz.* 66: 246. 1918.

Dry upland woods. Oxylophile. Scattered: Montgomery, Gasconade, and Henry counties.

Fam. BETULACEAE

Corylus americana Walt. Hazelnut.

Thickets and borders of woods. Circumneutral. General and probably in every county of the state.

Corylus americana f. *missouriensis* (A. DC.) Fernald, *Rh.* 34: 96. 1932.

Occasionally found with the typical form. Scattered.

Corylus americana var. *indehisca* Palmer & Steyermark, var. nov.

Thickets, fence-rows, and borders of woods. Circumneutral. Scattered: Jackson, Johnson, Jasper, and Newton counties, and perhaps more widely distributed.

A typo differt involucro fructus indehiscente vel dehiscente ad unum marginem.

Differs from the typical form in having the involucres of the fruit completely united on one side and usually partly united, towards the base, on the other side. North Carolina to Missouri and Arkansas. It has sometimes been confused with *C. cornuta* Marsh. (*C. rostrata* Ait.), which is rare in Missouri and which seems to be confined to the southeastern counties.

NORTH CAROLINA: Sept. 19, 1897, *Biltmore Herb.* 1244b; MISSOURI: Greenwood, Jackson Co., Sept. 5, 1924, B. F. Bush 10332 (Herb. Arn. Arb. TYPE); same locality and date E. J. Palmer 26035 (Herb. Arn. Arb.); ARKANSAS: Martinsville, Faulkner Co., Oct. 13, 1924, E. J. Palmer 26537 (Herb. Arn. Arb.); Hot Springs, Garland Co., Oct. 11, 1925, E. J. Palmer 29160 (Herb. Arn. Arb.).

Corylus cornuta Marsh. Beaked Hazelnut.

Corylus rostrata Ait. (G), (B & B).

Thickets and open woods. Circumneutral to oxylophile. Southeastern Mo.: Butler Co.

Ostrya virginiana (Mill.) K. Koch. Hop Hornbeam.

Borders of upland woods and along rocky bluffs and hillsides. Circumneutral to calciphile. General and probably in every county.

Ostrya virginiana var. *glandulosa* (Spach) Sarg. *Bot. Gaz.* 67: 216. 1919.

In similar situations to the preceding. Known in Clark, Jackson, and Jasper counties, and probably more widely distributed, though uncommon.

Carpinus caroliniana Walt. Ironwood, Blue Beech.

Along streams and bluffs, and in low woods. Circumneutral. Eastern, central, and southern Mo.; apparently absent from most of the northern and western counties: Clark, Lewis, Ralls, Pike, Lincoln, Warren, St. Charles, St. Louis, Jefferson, Washington, St. Francois, Perry, Cape Girardeau, Bollinger, Madison, Iron, Reynolds, Wayne, Scott, Mississippi, Pemiscot, Dunklin, Stoddard, Butler, Ripley, Carter, Dent, Shannon, Oregon, Howell, Texas, Pulaski, Phelps, Callaway, Boone, Howard, Carroll, Saline, Buchanan, Cole, Miller, Morgan, Camden, Benton, Hickory, Douglas, Ozark, Taney, Stone, Barry, and McDonald counties.

Betula nigra L. River Birch.

Banks of rivers and creeks. Circumneutral. General but apparently absent from parts of the Ozark region and some of the northwestern counties.

Alnus rugosa (Du Roi) Spreng. Smooth Alder.

Banks of streams, and about springs and bogs. Oxyophile. Eastern, central, and southern Mo.: Lewis, Marion, Pike, Lincoln, Warren, St. Louis, Jefferson, Franklin, Crawford, Washington, St. Francois, Ste. Genevieve, Perry, Bollinger, Madison, Iron, Reynolds, Wayne, Stoddard, Ripley, Carter, Oregon, Howell, Shannon, Texas, Dent, Pulaski, Miller, Cole, Boone, Benton, St. Clair, Cedar, Douglas, Ozark, Taney, and Newton counties.

Fam. FAGACEAE

Fagus grandifolia Ehrh. Beech.

Woods, low hills, and along streams. Circumneutral. Southeastern Mo.: Cape Girardeau and Stoddard counties.

Fagus grandifolia var. *caroliniana* (Loud.) Fernald & Rehder.

In similar situations to the preceding and more common. Southeastern Mo.: Perry, Cape Girardeau, Bollinger, Scott, Stoddard, Dunklin, and Butler counties.

Castanea ozarkensis Ashe, Bull. Torr. Bot. Club 50: 360. 1923. Chinquapin.

Castanea pumila of auth. in part, not Mill. (G), (B & B).

Rocky woods. Oxyophile. Southern Mo.: Howell, Barry, and McDonald counties.

Quercus alba L. White Oak.

Woods, chiefly on dry uplands. Circumneutral. General and probably in every county.

Quercus alba f. *latiloba* (Sarg.) Palmer & Steyermark, comb. nov.

Quercus alba var. *latiloba* Sarg.

In similar situations to the preceding and more common in some sections. A complete series of gradations are found between the two forms, and it scarcely seems distinct enough to be regarded as a variety.

Quercus stellata Wang. Post Oak.

Upland woods and along small streams. Oxyophile to circumneutral. General and probably in every county.

Quercus lyrata Walt. Overcup Oak.

Low or swampy woods. Circumneutral. East-central and southeastern Mo.: St. Louis, Jefferson, Cape Girardeau, Bollinger, Scott, Mississippi, New Madrid, Pemiscot, Dunklin, Stoddard, Butler, Wayne, and Ripley counties.

Quercus macrocarpa Michx. Bur Oak.

Low woods, chiefly in alluvial soil along streams. Circumneutral to calciphile. General.

Quercus macrocarpa var. *olivaeformis* (Michx f.) Gray.

Loess hills along the Missouri River. Northwestern Mo.: Atchison Co.

Quercus bicolor Willd. Swamp White Oak.

Low hills and alluvial ground along streams. Circumneutral. Northern, eastern, and central Mo., commonest north of the Missouri River and absent from most of the Ozark region.

Quercus Prinoides L. See Rh. 17: 40. 1915. Cow Oak, Basket Oak.

Quercus Michauxii Nutt. (G), (B & B).

Low woods along streams. Circumneutral. Southeastern Mo.: Iron, Madison, Bollinger, Cape Girardeau, Scott, Mississippi, Stoddard, Dunklin, Butler, and Ripley counties.

Quercus Muhlenbergii Engelm. Chinquapin Oak, Yellow Oak.

Upland woods, glades, and along bluffs. Calciphile to circumneutral. Most frequent in limestone areas, but also found sometimes on sandstone or igneous rocks. General and probably in every county.

Quercus Muhlenbergii f. *Alexanderi* (Britton) Trelease.

Quercus Alexanderi Britton.

In similar situations to the preceding into which it passes by gradations. General but scattered.

Quercus prinoides Willd. Shin Oak, Scrub Oak.

Borders of woods, rocky bluffs, and glades. Calciphile. Central, southern, and western Mo., mostly in the western part: St. Louis, Shannon, Howell, Mercer, Harrison, Daviess, Caldwell, Worth, Gentry, Nodaway, Atchison, Holt, Andrew, Clinton, Jackson, Cass, Johnson, St. Clair, Vernon, Polk, Dade, Greene, and Stone counties.

Quercus falcata Michx. Spanish Oak, Southern Red Oak.

Quercus rubra L., in part, not of most recent auth.

Quercus triloba Michx. (B & B), in part.

Woods, both alluvial and rocky ground. Oxylophile to circumneutral. Southern Mo.: Perry, Cape Girardeau, Bollinger, Scott, Mississippi, New Madrid, Pemiscot, Dunklin, Stoddard, Butler, Wayne, Carter, Oregon, Ripley, Howell, Ozark, Stone, and Barry counties.

Quercus falcata f. *triloba* (Michx.) Palmer & Steyermark, comb. nov.

Quercus triloba Michx., in part (B & B).

Upland or lowland woods. Southeastern Mo.: Ripley and Dunklin counties.

Quercus falcata var. *pagodaeifolia* Ell.

Quercus falcata Michx., in part (G).

Quercus pagodaeifolia (Ell.) Ashe (B & B).

In similar situations to the last. Southeastern Mo.: Dunklin and Butler counties.

Quercus falcata var. *leucophylla* (Ashe) Palmer & Steyermark, comb. nov.

Quercus rubra var. *leucophylla* Ashe.

Low woods. Southeastern Mo.: New Madrid Co.

Quercus borealis Michx. f. Red Oak.

Quercus rubra var. *ambigua* (Michx. f.) Fernald (G).

Rarely occurring in our region with the following and common form. Jackson Co.

Quercus borealis var. *maxima* Ashe, Proc. Soc. Am. Foresters 11: 90. 1916; and Rh. 18: 48. 1916. Red Oak.

Quercus rubra of auth., not L. (G), (B & B).

Upland woods. Frequent along bluffs and steep hillsides in limestone regions, but also found on siliceous and igneous rocks. Circumneutral. General, and probably in every county.

Quercus palustris Muench. Pin Oak.

Low and swampy woods. Circumneutral. General, but absent or uncommon in much of the Ozark region, where it is sometimes found in sinks or shallow ponds and is known as Turkey Oak.

Quercus coccinea Muench. Scarlet Oak.

Upland woods. Oxylophile. Southeastern Mo., mostly in the eastern Ozarks: Ste. Genevieve, Washington, Crawford, Dent, Bollinger, Iron, Madison, Wayne, Butler, Dunklin, Ripley, Carter, Reynolds, Shannon, Oregon, Texas, and Howell counties.

Quercus coccinea var. *tuberculata* Sarg. Bot. Gaz. 65: 426. 1918.

Occasionally found with the typical form. Southwestern Mo.: Butler Co.

Quercus ellipsoidalis E. J. Hill. Jack Oak, Yellow Oak.

Upland woods. Circumneutral. Northern Mo., local: Harrison Co.

Quercus Shumardii Buckley. Red Oak.

Low or upland woods. Circumneutral. Central and southern Mo.: Jefferson, Pemiscot, Dunklin, Ripley, Marion, Pulaski, Dent, Shannon, Howell, Montgomery, Ozark, Pettis, Jackson, Bates, Jasper, and McDonald counties.

Quercus Shumardii var. *Schneckii* (Britton) Sarg. Red Oak.

Quercus Schneckii Britton (B & B).

Quercus texana of auth., not Buckley (G).

Upland woods, bluffs, and alluvial ground along streams. Circumneutral to calciphile. Central and southern Mo.

Quercus Nuttallii Palmer, Jour. Arnold Arb. 8: 52. 1927.

Low wet woods. Circumneutral. Southeastern Mo.: Butler Co.

Quercus nigra L. Water Oak.

Low woods. Circumneutral. Southeastern Mo.: Pemiscot, Dunklin, Butler, and Ripley counties.

Quercus Phellos L. Willow Oak.

Southeastern Mo. and locally north along Mississippi River: St. Louis, Madison, Bollinger, Scott, Mississippi, New Madrid, Pemiscot, Dunklin, Stoddard, Butler, and Ripley counties.

Quercus marilandica Muench. Black Jack Oak.

Dry or rocky upland woods. Oxylophile to circumneutral. General, but commonest in the Ozark region.

Quercus imbricaria Michx. Shingle Oak.

Upland woods and along small streams. Circumneutral. General but apparently absent from a number of the Ozark and southwestern counties.

Quercus velutina Lam. Black Oak.

Upland woods and well-drained ground along streams. Oxylophile to circumneutral. General and probably in every county.

Quercus velutina var. *missouriensis* Sarg.

In similar situations to the last. General but scattered and commonest in the Ozark region: Clark, Audrain, Shannon, Dunklin, Ozark, Taney, Stone, Barry, Jackson, Jasper, and McDonald counties.

Quercus leiodermis Ashe, Jour. Elisha Mitchell Sci. Soc. 40: 43. 1924.

Upland woods. Circumneutral. Jackson and St. Clair counties. Perhaps only a form of *Q. velutina*.

× **Quercus Hillii** Trelease, Proc. Am. Phil. Soc. 56: 49. 1917.

A hybrid between *Q. macrocarpa* and *Q. Muhlenbergii*. Holt and Jackson counties.

× **Quercus Bebbiana** Schneider, Handb. Laubholz. 1: 201. 1904.

A hybrid between *Q. alba* and *Q. macrocarpa*. Marion and Jackson counties.

× **Quercus Fernowii** Trelease, Proc. Am. Phil. Soc. 56: 49. 1917.

A hybrid between *Q. alba* and *Q. stellata*. St. Louis Co.

× **Quercus Leana** Nutt.

A hybrid between *Q. imbricaria* and *Q. velutina*. General but scattered: Adair, Boone, Jefferson, Washington, Iron, Madison, Saline, Dekalb, Jackson, Dade, and Christian counties.

× **Quercus Bushii** Sarg. Bot. Gaz. 65: 453. 1918.

A hybrid between *Q. marilandica* and *Q. velutina*. Jackson, Johnson, and Jasper counties.

× **Quercus Porteri** Trelease, Proc. Am. Phil. Soc. 56: 51. 1917.

A hybrid between *Q. borealis* var. *maxima* and *Q. velutina*. Clark, Dunklin, and Jackson counties.

× **Quercus exacta** Trelease, Proc. Am. Phil. Soc. 56: 49. 1917.

A hybrid between *Q. imbricaria* and *Q. palustris*. Shelby, Jefferson, Sullivan, and Dekalb counties.

× **Quercus ludoviciana** Sarg. Trees & Shrubs 2: 223. 1913. × **Quercus subfalcata** Trelease.

A hybrid between *Q. falcata* and *Q. Phellos*. Carter and Butler counties.

× **Quercus Richteri** Baenitz, Allg. Bot. Zeit. 9: 85. 1903.

A hybrid between *Q. borealis* var. *maxima* and *Q. palustris*. Osage and Benton counties.

× **Quercus runcinata** Engelm.

A hybrid between *Q. borealis* var. *maxima* and *Q. imbricaria*. St. Louis, Wayne, and Jackson counties.

× **Quercus tridentata** Engelm.

A hybrid between *Q. imbricaria* and *Q. marilandica*. St. Louis Co.

Quercus heterophylla Michx. f.

A hybrid between *Q. borealis* var. *maxima* and *Q. Phellos*. Dunklin Co.

Quercus vaga Palmer & Steyermark, hyb. nov.

Hybrida intermedia *Q. palustre* et *Q. velutina* foliis, gemmis hyemalibus fructuque.

Intermediate in character of foliage, winter buds, and fruit, between *Q. palustris* and *Q. velutina*, the supposed parent species, both of which were growing in close proximity to the type tree.

Alluvial ground along small upland streams. Northeastern Missouri, and to be expected elsewhere in the range of the parent species.

MISSOURI: Maryville, Nodaway Co., June 13, 1924, E. J. Palmer 25421 (Arn. Arb. TYPE).

Quercus inaequalis Palmer & Steyermark, hyb. nov.

Hybrida intermedia *Q. Phellos* et *Q. velutina* foliis, gemmis hyemalibus fructuque.

Intermediate in character of foliage, winter buds, and fruit, between *Q. Phellos* and *Q. velutina*, the supposed parent species, both of which were growing near the type tree. The leaves in this hybrid are extremely variable and many of them unsymmetrical.

Low hills bordering lowlands. Southeastern Missouri to Arkansas and Louisiana.

MISSOURI: Poplar Bluff, Butler Co., Sept. 11, 1919, E. J. Palmer 16322 (Arn. Arb. TYPE); same locality, Oct. 5, 1921, Palmer 20676 (Arn. Arb. topotype); ARKANSAS: Hot Springs, Garland Co., Oct. 10, 1925, E. J. Palmer 23098 (Arn. Arb.); same locality, Nov. 5, 1925, Palmer 29577 (Arn. Arb.); Hardinville, Faulkner Co., Oct. 13, 1924, E. J. Palmer 26505 (Arn. Arb.); LOUISIANA: near Sardis, July 30, 1915, E. S. Cocks 814 (Arn. Arb.); same locality, Sept. 1-15, 1915, E. S. Cocks 938 (Arn. Arb.).

Quercus Shirlingii Bush, hyb. nov.

Hybrida intermedia *Q. imbricaria* et *Q. Shumardii* var. *Schneckii* foliis fructuque.

Foliage and fruit intermediate between *Q. imbricaria* and *Q. Shumardii* var. *Schneckii*, the supposed parent species, both of which were growing with the type tree. This species is named in honor of Professor A. E. Shirling, of Teachers' College at Kansas City, Missouri.

MISSOURI: Oak Grove, Jackson Co., Oct. 22, 1927, B. F. Bush 11637 (Arn. Arb. TYPE).

Quercus mutabilis Palmer & Steyermark, hyb. nov.

Hybrida intermedia *Q. palustre* et *Q. Shumardii* var. *Schneckii* foliis fructuque.

Intermediate in foliage and fruit between *Q. palustris* and *Q. Shumardii* var. *Schneckii*, both of which were growing with the type tree.

Low hills bordering river valley. Western Missouri.

MISSOURI: Montieh Junction, Bates Co., Sept. 10, 1924, E. J. Palmer 26069 (Arn. Arb. TYPE).

Fam. ULMACEAE

Ulmus americana L. White Elm, American Elm.

Woods, principally along streams. Circumneutral. General, and probably in every county.

Ulmus Thomsii Sarg. Cork Elm, Rock Elm.

Ulmus racemosa Thomas, not Borkh. (G.).

Woods along streams. Circumneutral. Northern, central, and southeastern Mo.: Clark, Monroe, Boone, Stoddard, Dunklin, Atchison, and Jackson counties.

Ulmus alata Michx. Winged Elm.

Low and upland woods. Oxylophile to circumneutral. East-central and southern Mo.: Lincoln, Warren, St. Louis, Jefferson, Franklin, Gasconade, St. Francois, Ste. Genevieve, Perry, Cape Girardeau, Bollinger, Madison, Iron, Reynolds, Wayne, Stoddard, Scott, Mississippi, New Madrid, Pemiscot, Dunklin, Butler, Ripley, Carter, Oregon, Dent, Howell, Shannon, Texas, Phelps, Pulaski, Callaway, Cooper, Cole, Douglas, Ozark, Taney, Christian, Greene, Stone, Barry, and McDonald counties.

Ulmus fulva Michx. Slippery Elm, Red Elm.

Upland woods and along bluffs. Calciphile to circumneutral. General and probably in every county.

Planera aquatica (Walt.) J. F. Gmel. Water Elm, Planer Tree.

Swamps and low wet woods. Circumneutral. Southeastern Mo.: Mississippi, New Madrid, Pemiscot, Dunklin, Butler, and Ripley counties.

Celtis occidentalis L. Hackberry, Sugarberry.

Low and upland woods, mostly along streams. Circumneutral. General but less common than the varieties that follow: Mercer, Putnam, Marion, Madison, Iron, Texas, Daviess, Gentry, DeKalb, Nodaway, Buchanan, St. Clair, and Jasper counties.

Celtis occidentalis var. *crassifolia* (Lam.) Gray.

Low and upland woods along streams. Circumneutral. General: Clark, Scotland, Knox, Adair, Sullivan, Carroll, Boone, Pike, Cape Girardeau, Butler, Oregon, Shannon, Ozark, Taney, Stone, Harrison, Grundy, Livingston, Atchison, Johnson, Jasper, and McDonald counties.

Celtis occidentalis var. *canina* (Raf.) Sarg. Bot. Gaz. 67: 217. 1919.

Low and upland woods along streams. Circumneutral. General and perhaps in every county.

Celtis laevigata Willd. Southern Hackberry.

Celtis mississippiensis Bosc, in part (G), (B & B).

Low wet woods. Eastern, central, and southern Mo.: Marion, Pike, Montgomery, Gasconade, St. Charles, St. Louis, Jefferson, Perry, Cape Girardeau, Scott, Mississippi, New Madrid, Pemiscot, Dunklin, Butler, Ripley, Shannon, Iron, Cole, Boone, Howard, Jackson, Bates, St. Clair, Jasper, McDonald, Stone, and Taney counties.

Celtis laevigata var. *texana* (Scheele) Sarg. Bot. Gaz. 67: 223. 1919.

Celtis mississippiensis Bosc, in part (G), (B & B).

Rocky woods, glades, and bluffs. Circumneutral. Central and southern Mo.,

mainly in the Ozark region: St. Charles, Perry, Stoddard, Butler, Carter, Oregon, Shannon, Ozark, Taney, Stone, Douglas, Christian, Pulaski, Camden, Benton, Miller, Moniteau, Montgomery, Boone, Jackson, Polk, Greene, St. Clair, Cedar, Lawrence, Jasper, Newton, and McDonald counties.

Celtis pumila Pursh. Dwarf Hackberry.

Rocky woods. Calciphile to circumneutral. Central and southern Mo.: St. Louis, Madison, Carter, Shannon, Dent, Jackson, Benton, Taney, Barry, Vernon, and Newton counties.

Celtis pumila var. *georgiana* (Small) Sarg. Bot. Gaz. 67: 227. 1919.

Celtis georgiana Small (B & B).

Rocky woods, glades, and bluffs. Central and southern Mo.: Ralls, Lincoln, Montgomery, St. Francois, Ste. Genevieve, Madison, Iron, Wayne, Carter, Oregon, Shannon, Dent, Crawford, Maries, Miller, Camden, Benton, Polk, Dallas, Henry, Hickory, Ozark, Taney, Stone, St. Clair, Cedar, Vernon, Jasper, Newton, McDonald, and Barry counties.

Celtis pumila var. *Deamii* Sarg. Bot. Gaz. 67: 228. 1919.

Rocky woods and glades. Circumneutral. Southeastern Mo., Iron Mountain sub-region: St. Francois and Iron counties.

Fam. MORACEAE

Macura pomifera (Raf.) Schneider. Osage Orange, Bodarc.

Pastures, thickets, and borders of woods. Calciphile to circumneutral. Probably not native in the state, but formerly much planted for hedges and freely escaping. General but scattered and absent from many of the Ozark counties: Adair, Shelby, Audrain, St. Louis, Franklin, Gasconade, Iron, New Madrid, Pemiscot, Howell, Laclede, Livingston, Caldwell, Dekalb, Atchison, Holt, Jackson, Johnson, Bates, Vernon, St. Clair, Greene, and Jasper counties.

Broussonetia papyrifera (L.) Vent. Paper Mulberry.

Sometimes planted as a shade tree and occasionally escaping. Johnson and Butler counties.

Morus rubra L. Red Mulberry.

Low and upland woods. Circumneutral. General and probably in every county.

Morus alba L. White Mulberry.

Commonly planted and freely escaping. Indifferent. General but scattered: Clark, Marion, Ralls, Pike, Lincoln, St. Louis, Franklin, Merer, Harrison, Sullivan, Chariton, Boone, Atchison, Holt, Andrew, Dekalb, Jackson, Johnson, Bates, Vernon, Barton, Jasper, and McDonald counties.

Cannabis sativa L. Hemp.

Thickets, open and waste ground. Circumneutral. General.

Humulus Lupulus L. Hop.

Fertile open and waste ground. Circumneutral. General.

Humulus japonicus Sieb. & Zucc. Japanese Hop.

Fertile open ground and waste places. Indifferent. Scattered: Jackson and Jasper counties.

Fam. URTICACEAE

URTICA URENS L. Dwarf Nettle.

Introduced in waste ground. Indifferent. Western Mo., local: Jackson Co.

Urtica procera Muhl. See Rh. 28: 192-195. 1926. Slender Nettle.*Urtica gracilis* of most Am. auth., not Ait. (G), (B & B).

Waste or cultivated ground, rich low or alluvial woods, and fertile soils. Circumneutral. Northern and central Mo.: Marion, Lincoln, St. Charles, St. Louis, Boone, Chariton, Saline, Caldwell, Livingston, Mercer, Harrison, Worth, Knox, Adair, Shelby, Macon, Gentry, Atchison, Holt, Buchanan, Andrew, Platte, Clay, and Jackson counties.

Urtica chamaedryoides Pursh.

Low open ground. Circumneutral. Southeastern Mo.: Pemiscot Co.

Laportea canadensis (L.) Gaud. Wood Nettle.

Low rich woods. Circumneutral. General.

Pilea pumila (L.) Gray. Clearweed, Richweed.

Low woods and boggy ground along streams, and about ponds. Circumneutral. General.

Boehmeria cylindrica (L.) Sw. False Nettle.

Open woods, thickets, and moist open ground. Circumneutral. General.

Parietaria pensylvanica Muhl. Pellitory.

Open woods, thickets, and moist open ground. Circumneutral. General.

Parietaria obtusa Rydb.

Rocky open woods and glades. Circumneutral. Local: Ozark Co.

Fam. SANTALACEAE

Comandra Richardiana Fernald. Bastard Toadflax.Dry rocky woods, prairies, and barrens. Oxylophile to circumneutral. General, but commonest in central and southern Mo. This has been long confused with *C. umbellata*, a northern species which does not reach Mo.

Fam. LORANTHACEAE

Phoradendron flavescens (Pursh) Nutt. Mistletoe.

Parasitic on deciduous trees; low woods and banks of streams. Southern Mo.: Scott, Mississippi, New Madrid, Stoddard, Dunklin, Butler, Ripley, Carter, Reynolds, Shannon, Oregon, Ozark, and Stone counties.

Fam. ARISTOLOCHIACEAE

Asarum canadense L. var. *acuminatum* Ashe. Wild Ginger.

Rich woods and along base of rocky bluffs. Circumneutral. General.

Asarum canadense var. *reflexum* (Bicknell) Robinson.

In similar situations to the preceding. General.

Aristolochia Serpentaria L. Virginia Snakeroot.

Rich woods and alluvial thickets. Circumneutral. Central and southern Mo.: St. Louis, Jefferson, Franklin, Cape Girardeau, Bollinger, New Madrid,

Dunklin, Butler, Ripley, Carter, Iron, Oregon, Shannon, Dent, Gasconade, Howell, Texas, Maries, Pulaski, Boone, Saline, Jackson, Henry, Wright, Webster, Greene, Christian, Douglas, Ozark, Taney, Stone, Barry, Jasper, and McDonald counties.

Aristolochia Serpentaria var. *hastata* (Nutt.) Duchartre.

Low swampy woods. Circumneutral. Southeastern Mo., local: Dunklin Co.

Aristolochia tomentosa Sims. Pipe Vine, Dutchman's Pipe.

Low woods and thickets along streams. Circumneutral. East-central and southern Mo.: St. Louis, Jefferson, Franklin, Madison, Wayne, Butler, Dunklin, Ripley, Oregon, Shannon, Phelps, Pulaski, Texas, Maries, Wright, Douglas, Ozark, Greene, Stone, Lawrence, Jasper, Newton, and McDonald counties.

Fam. POLYGONACEAE

Eriogonum longifolium Nutt.

Rocky open woods and glades. Oxylophile. Southern Mo., rare and local: Oregon Co.

RUMEX ELONGATUS Guss.

Waste open ground. Indifferent. Scattered: Boone, Clay, and Jackson counties.

RUMEX PATIENTIA L. var. *KURDICUS* Boiss. Patience Dock.

Waste ground. Indifferent. Introduced in Clay and Jackson counties.

RUMEX BRITANNICA L. Great Water Dock.

Low ground along Missouri River. Circumneutral. Local: St. Louis Co.

RUMEX CRISPUS L. Narrow-leaved Dock, Curled Dock.

Fields and waste ground. Indifferent. General and common.

Rumex mexicanus Meisn.

Moist alluvial ground. Indifferent. Scattered: Clark, Knox, St. Louis, Saline, Mercer, Carroll, Clay, Jackson, and Holt counties.

Rumex altissimus Wood. Pale Dock.

Fields, thickets, waste, and alluvial ground. Circumneutral. General.

Rumex verticillatus L. Swamp Dock.

Swamps and low wet woods. Circumneutral. General.

RUMEX SANGUINEUS L.

Waste ground. Indifferent. Locally introduced in St. Louis Co.

RUMEX OBTUSIFOLIUS L. Bitter Dock, Broad-leaved Dock.

Fields, waste ground, and about dwellings. Indifferent. General.

Rumex maritimus L. var. *fueginus* (Philippi) Dusén. See Rh. 17: 80-81. 1915.

Sand bars and alluvial ground along the larger rivers. Circumneutral. Central and northwestern Mo.: St. Louis, Franklin, Perry, Boone, Saline, Carroll, Holt, Buchanan, Clay, and Jackson counties. This has been confused with *Rumex persicaroides*, which is not known in Mo.

Rumex hastatus Baldw.

Rocky prairies, glades, and sandy open ground. Oxylophile. Scattered in east-central and southern Mo.: St. Louis, Ste. Genevieve, Scott, Dunklin, and Newton counties.

RUMEX ACETOSELLA L. Sour Dock, Sheep Sorrel.

Fields and waste ground. Oxylophile. General.

RUMEX CRISPUS X OBTUSIPOLIUS.

Sometimes occurring locally with the parent species. St. Louis, Jefferson, and Carroll counties.

Polygonum exsertum Small.

Low alluvial meadows, prairies, and muddy banks. Circumneutral. General.

Polygonum prolificum (Small) Robinson.

Open ground. Indifferent. Local: Clay and Jackson counties.

Polygonum aviculare L. Knotweed, Knot-grass.

Fields, waste ground, and about dwellings. Indifferent. General and common.

Polygonum aviculare var. *vegetum* Ledeb.

In similar situations to the typical form. Indifferent. Scattered.

Polygonum aviculare var. *angustissimum* Meisn.

Polygonum neglectum Bess. (B & B).

With the typical form and often commoner. Indifferent. General.

Polygonum buxiforme Small.

Polygonum littorale of auth., not Link (B & B).

Polygonum aviculare var. *littorale* (G).

Fields and waste ground. Indifferent. General.

Polygonum erectum L.

Low wet woods and alluvial banks of streams and ponds. Circumneutral. General.

Polygonum ramosissimum Michx.

Prairies and open ground, usually in moist alluvial soil. Circumneutral. General.

Polygonum achoreum Blake, Rh. 19: 232. 1917.

Introduced in waste ground. Jackson Co.

Polygonum triangulum Bicknell in Britton & Brown, Ill. Fl. ed. 2. 1: 664, fig. 1626. 1913.

Fields and waste ground. Indifferent. Jackson Co.

Polygonum tenue Michx.

Rocky prairies, glades, and gravel bars along streams. Oxylophile. Central and southern Mo.: Lincoln, Boone, Montgomery, Warren, St. Charles, Gasconade, Crawford, Jefferson, Ste. Genevieve, St. Francois, Perry, Madison, Bollinger, Iron, Reynolds, Stoddard, Dunklin, Shannon, Phelps, Howell, Pulaski, Marion, Camden, Dallas, Polk, St. Clair, Greene, Jackson, Jasper, Newton, McDonald, and Barry counties.

Polygonum lapathifolium L. See Rh. 23: 258-259. 1921.

Polygonum lapathifolium var. *nodosum* (Pers.) Weinmann (G).

Wet open ground about ponds and sloughs, and in waste ground. Indifferent. General.

Polygonum densiflorum Meisn.

Low open ground. Circumneutral. Southeastern Mo.: Scott, Dunklin, and Carter counties.

Polygonum coccineum Muhl. See Rh. 27: 162. 1925.

Polygonum Muhlenbergii (Meisn.) Wats. (G).

Persicaria Muhlenbergii (Wats.) Small (B & B).

Prairies and open woods, and borders of streams, ponds, and sloughs. Circumneutral. General.

Polygonum coccineum var. *pratincola* (Greene) Stanford, Rh. 27: 165. 1925.

In similar situations to the typical form. Local: Jackson Co.

Polygonum natans Eat.

Polygonum amphibium of Am. auth., not L. (G).

Persicaria amphibia S. F. Gray (B & B).

In shallow water. Local: Greene Co.

Polygonum pensylvanicum L.

Wet ground along borders of streams, ponds, and sloughs, and in waste ground.

Indifferent. General.

Polygonum pensylvanicum var. *laevigatum* Fernald, Rh. 19: 73. 1917.

Frequently found with the typical form.

Polygonum longistylum Small. See Rh. 27: 182. 1925.

Wet or moist open ground along prairie streams. Circumneutral. Central and southern Mo.; scattered: New Madrid, Dunklin, Clay, Jackson, and Jasper counties.

Polygonum Hydropiper L. var. *projectum* Stanford, Rh. 29: 86. 1927. Smartweed, Water Pepper.

Polygonum Hydropiper of auth. in part, not L. (G).

Persicaria Hydropiper of auth., not Opiz (B & B).

Wet woods and prairies, along sloughs and streams. Circumneutral. General.

Polygonum punctatum Ell. Smartweed, Water Pepper.

Polygonum acre HBK, not Lam., in part (G).

Polygonum acre var. *leptostachyum* Meisn., in part (G).

Persicaria punctata (Ell.) Small (B & B).

Wet ground, borders of ponds and sloughs. Circumneutral. General.

Polygonum robustius (Small) Fernald, Rh. 23: 147. 1921.

Low wet woods and borders of sloughs. Circumneutral. Southeastern Mo.: Dunklin Co.

POLYGONUM ORIENTALE L. Prince's Feather.

Waste ground; escaped from cultivation. Indifferent. Scattered: St. Louis, Boone, Miller, Greene, Taney, Clay, Jackson, Cass, and Jasper counties.

POLYGONUM PERSICARIA L. Lady's Thumb.

Waste and cultivated ground. Circumneutral. General.

Polygonum setaceum Baldw.

Swampy open ground and low open woods. Circumneutral. Southeastern Mo.: Dunklin, Butler, and Ripley counties.

Polygonum hydropiperoides Michx. See Rh. 28: 24. 1926.

Wet open ground about ponds, streams, and spring branches. Circumneutral. General.

Polygonum hydropiperoides f. *strigosum* (Small) Stanford, Rh. 28: 26. 1926.

Polygonum hydropiperoides var. *strigosum* Small (G).

Occasionally found with the typical form.

Polygonum opelousanum Riddell. See Rh. 28: 27. 1926.

Persicaria opelousana (Riddell) Small (B & B).

Low wet woods. Circumneutral. Southern Mo.: Dunklin, Butler, Ripley, Jasper, Newton, and McDonald counties.

Polygonum virginianum L.

Rich woods. Circumneutral. General.

Polygonum arifolium L. Halberd-leaved Tear-thumb.

Wet or moist open ground. Circumneutral. Southeastern Mo., local: Stoddard Co.

Polygonum sagittatum L. Arrow-leaved Tear-thumb.

Boggy ground about springs and streams. Oxylophile. General but scattered: Putnam, Shelby, Audrain, Boone, Randolph, Lincoln, St. Charles, St. Louis, Jefferson, St. Francois, Bollinger, Mississippi, Dunklin, Shannon, Crawford, Saline, Jackson, St. Clair, Greene, Cedar, Vernon, Barton, and Jasper counties.

POLYGONUM CONVOLVULUS L. Climbing Buckwheat, Black Bindweed.

Thickets, waste and cultivated ground. Circumneutral. General but scattered.

Polygonum scandens L. Climbing False Buckwheat.

Thickets, waste and cultivated ground. Circumneutral. General.

POLYGONUM CUSPIDATUM Sieb. & Zucc. See Rh. 32: 223. 1930. Japanese Knotweed.

Cultivated and rarely escaped into thickets and waste places. St. Louis Co.

FAGOPYRUM ESCULENTUM Moench. Buckwheat.

Rich cultivated and waste ground. Escaped from cultivation. General but scattered.

Polygonella americana (Fisch. & Mey.) Small. Jointweed.

Glaeas and open sandy ground. Oxylophile. Southeastern Mo.: Iron, Stoddard, and Dunklin counties.

Brunnichia cirrhosa Gaertn. Ladies' Ear-drops.

Swamps, low wet woods, and wet thickets. Circumneutral. Southeastern Mo.: Bollinger, Mississippi, New Madrid, Pemiscot, Dunklin, Stoddard, Butler, and Ripley counties.

Fam. CHENOPodiaceae

Cycloloma atriplicifolium (Spreng.) Coulter. Winged Pigweed.

Sandy fields, rocky or sandy open ground, and along roadways and railways. Oxylophile. General but scattered: Clark, Pike, St. Charles, St. Louis, Franklin, St. Francois, Perry, Stoddard, Dunklin, Randolph, Carroll, Saline, Clay, Jackson, and Jasper counties.

KOCHIA TRICHOPHYLLA Stapf. Fire-bush, Summer Cypress

Cultivated and occasionally escaped, in fields and along railroads. Scattered: St. Louis, Callaway, McDonald, Gentry, and Andrew counties.

KOCHIA SCOPARIA (L.) Schrad. Standing Cypress, Belvedere.

Escaped from cultivation into waste ground and along railroads. Scattered: St. Louis, Jefferson, Franklin, Andrew, Buchanan, and Jackson counties.

KOCHIA PROSTRATA (L.) Schrad.

Waste ground. Indifferent. Introduced in Jackson Co.

CHENOPODIUM AMBROSIOIDES L. Mexican Tea.

Fields, rich waste ground, and about dwellings. Indifferent. General.

CHENOPODIUM AMBROSIOIDES VAR. ANTHELMINTICUM (L.) Gray.

Commonly found with the typical form.

CHENOPODIUM CARINATUM R. Br.

Waste ground, fields, and about dwellings, often in rocky or gravelly ground. Indifferent. Central and southern Mo., scattered: Bollinger, Ripley, Reynolds, Shannon, Oregon, Dent, Howell, Texas, Ozark, Douglas, Jackson, and Vernon counties.

CHENOPODIUM BOTrys L. Feather Geranium, Jerusalem Oak.

Waste ground. Indifferent. Scattered: St. Louis, Shannon, Ozark, Stone, and Jackson counties.

Chenopodium capitatum (L.) Asch. Strawberry Blite.

Open ground. Circumneutral. Local: Pike Co.

CHENOPODIUM GLAUCUM L. Oak-leaved Goosefoot.

Waste open ground and moist alluvial ground along ponds and the larger rivers. Calciphile to circumneutral. Scattered: St. Louis, Clinton, Holt, and Jackson counties.

Chenopodium gigantospermum Aellen in Fedde, Rep. Spec. Nov. 26: 144. 1929.
Maple-leaved Goosefoot.

Chenopodium hybricum of Am. auth., not L. (G), (B & B).

Rich waste and cultivated ground. Indifferent. General.

Chenopodium gigantospermum var. Standleyanum Aellen in Fedde, Rep. Spec. Nov. 26: 147. 1929.
Waste ground. Indifferent. St. Louis Co.

CHENOPODIUM ALBUM L. Pigweed, Lamb's Quarter.

Waste and cultivated ground. Indifferent. General and common. The young shoots eaten as greens.

CHENOPODIUM ALBUM f. VIRIDE (L.) Aellen in Fedde, Rep. Spec. Nov. 26: 129. 1929.

Chenopodium album var. *viride* (L.) Moq., in part (G).

Chenopodium album L., in part (B & B).

Waste ground, in rich or moist soil. Indifferent. General.

CHENOPODIUM ALBUM f. LANCEOLATUM (Muhl.) Aellen in Fedde, Rep. Spec. Nov. 26: 130. 1929.
Waste and low alluvial ground. Sometimes found with the typical form.

Scattered.

CHENOPODIUM PAGANUM Reichenb.

Chenopodium album var. *viride* (L.) Moq., in part (G).

Chenopodium album of auth., not L., in part (B & B).

Waste and cultivated ground. Indifferent. General but scattered.

- Chenopodium pratericola* Rydb. Bull. Torr. Bot. Club 39: 310. 1912.
Waste and cultivated ground. Indifferent. Jackson Co.
- Chenopodium Berlandieri* Moq.
Waste ground. Indifferent. General but scattered.
- Chenopodium Berlandieri* subsp. *Zschackei* var. *typicum* f. *latifolium* (Ludwig) Aellen in Fedde, Rep. Spec. Nov. 26: 55. 1929.
Waste ground. Jackson Co.
- Chenopodium Berlandieri* subsp. *Zschackei* var. *typicum* f. *angustius* (Ludwig) Aellen in Fedde, Rep. Spec. Nov. 26: 55. 1929.
Occasionally found with the other forms. Indifferent. Scattered: Jackson and Jasper, and probably in many other counties.
- Chenopodium Berlandieri* subsp. *Zschackei* var. *typicum* f. *pedunculare* Aellen in Fedde, Rep. Spec. Nov. 26: 55. 1929.
Waste ground. Indifferent. Jackson Co.
- Chenopodium Berlandieri* subsp. *Zschackei* var. *typicum* f. *neglectum* Aellen in Fedde, Rep. Spec. Nov. 26: 55. 1929.
Waste ground. Indifferent. Jackson Co.
- Chenopodium Berlandieri* subsp. *Zschackei* var. *farinosum* Aellen in Fedde, Rep. Spec. Nov. 26: 56. 1929.
Waste ground. Indifferent. Jackson Co.
- Chenopodium Berlandieri* subsp. *Boscianum* (Moq.) Aellen in Fedde, Rep. Spec. Nov. 26: 51. 1929.
Chenopodium Boscianum Moq. (G), (B & B).
Woods and thickets. Indifferent. Southern and central Mo., scattered: St. Louis, Jackson, Greene, and Jasper counties.
- Chenopodium Standleyanum* Aellen in Fedde, Rep. Spec. Nov. 26: 153. 1929.
Chenopodium Boscianum Moq., in part.
Waste ground. Indifferent. Southern and western Mo.: Shannon, Holt, Jackson, Greene, and Jasper counties.
- Chenopodium missouriense* Aellen, Bot. Not. 1928: 206, figs. 1928.
Chenopodium pagnum Standley, N. Am. Fl. 21: 1. 1916, not Reichemb.
Waste and cultivated ground. Indifferent. General, but scattered: St. Louis, Jackson, and Jasper counties, and probably in many others.
- Chenopodium missouriense* var. *Bushianum* Aellen in Fedde, Rep. Spec. Nov. 26: 156. 1929.
Waste ground. Indifferent. Jackson Co.
- Chenopodium glaucophyllum* Aellen in Fedde, Rep. Spec. Nov. 26: 155. 1929.
Waste ground. Indifferent. Jackson Co.
- Chenopodium Bushianum* Aellen in Fedde, Rep. Spec. Nov. 26: 63. 1929.
Rocky open and waste ground. Indifferent. Western Mo.: Jackson, St. Clair, Greene, and Ozark counties.

Chenopodium leptophyllum Nutt.

Rocky or sandy open ground. Oxyophile. Western Mo.: Jackson and Jasper counties, and probably in many others.

Chenopodium leptophyllum var. *leptophyloides* (Murr.) Thellung & Aellen in Fedde, Rep. Spec. Nov. 26: 134. 1929.

Chenopodium leptophyllum var. *oblongifolium* Wats. (G).

Chenopodium leptophyllum Nutt. in part (B & B).

Waste and cultivated ground. Indifferent. General but scattered: St. Louis, Jackson, Jasper, and probably in many other counties.

Chenopodium incanum (Wats.) Heller.

Open waste ground. Indifferent. Introduced from the western plains. Jackson Co.

Chenopodium dacoticum Standley, N. Am. Fl. 21: 22. 1916.

Prairies and fields. Indifferent. Western Mo.: Atchison and Jackson counties.

CHENOPODIUM MURALE L.

Waste ground and about dwellings. Indifferent. General but scattered: Warren, St. Louis, Texas, Boone, Jackson, Greene, Taney, and Jasper counties.

CHENOPODIUM URBICUM L.

Waste ground, dumps, and about dwellings. Indifferent. General.

CHENOPODIUM URBICUM var. *INTERMEDIUM* (Mert. & Koch) Koch.

Commonly occurring with the typical form.

x Chenopodium variabile var. *Murrii* Aellen in Fedde, Rep. Spec. Nov. 26: 157. 1929.

A supposed hybrid between *Chenopodium album* and *C. Berlandieri* subsp. *Zschackei* var. *typicum*.

Waste ground. Jackson Co.

ATRIPLEX ROSEA L. Red Scale.

Waste and saline soil. Calciphile. Central Mo.: Howard and Jackson counties.

Atriplex patula L. Spear Scale.

Rich cultivated or waste ground. Indifferent. Northern and central Mo.: Knox, St. Louis, Putnam, and Jackson counties.

Atriplex patula var. *hastata* (L.) Gray.

Rocky or waste ground, and around saline springs and licks. Indifferent. Scattered: St. Louis, Callaway, Boone, Randolph, Jackson, and Jasper counties.

Atriplex argentea Nutt. Silver Scale.

Dry open ground. Indifferent. Introduced in Jackson Co.

Monolepis Nuttalliana (R. & S.) Wats.

Introduced in waste ground. Jackson Co.

AXYRIS AMARANTHOIDES L. See Rh. 29: 223. 1927.

Introduced in waste ground. Jackson Co.

Corispermum nitidum Kit. Bug-seed.

Sandy open ground. Oxyophile. Introduced in Jackson Co.

Corispermum hyssopifolium L. Bug-seed.

Sand bars of the large rivers. Oxyophile. Scattered: St. Louis, Perry, Clay, and Jackson counties.

Corispermum orientale L. var. *emarginatum* (Rydb.) Macbride, Contr. Gray Herb. N. S. 53: 13. 1918.

Sandy open ground. Oxyophile. Introduced in Jackson Co.

Suaeda depressa (Pursh) Wats. Sea Blite.

Sandy open ground. Oxyophile. Introduced in Jackson Co.

Salsola Kali L.

Open waste ground. Introduced in Jackson Co.

SALSOLA KALI var. *TENUIFOLIA* G. F. W. Mey. Russian Thistle.

Dry or rocky open ground and waste places. Calciphile to circumneutral. Introduced from farther west. Scattered: St. Louis, St. Francois, Saline, Carroll, Atchison, Holt, Andrew, Buchanan, Platte, Clay, Jackson, and Jasper counties.

Fam. AMARANTHACEAE

Amaranthus Palmeri Wats.

Waste ground and along railroads. Indifferent. Introduced in Jackson Co.

AMARANTHUS HYBRIDUS L. Pig-weed, Green Amaranth.

Fields, gardens, and waste ground. Indifferent. General and common. The young shoots eaten as greens.

AMARANTHUS HYBRIDUS var. *HYPOCHONDRIACUS* (L.) Robinson. Prince's Feather. Cultivated and rarely escaped. Scattered.*AMARANTHUS RETROFLEXUS* L. Pig-weed, Green Amaranth.

Cultivated and waste ground. Indifferent. General.

AMARANTHUS PANICULATUS L. Purple Amaranth.

Escaped from gardens to roadsides and waste ground. Uncommon and scattered: St. Louis, Saline, and Jackson counties, and reported from Boone Co.

Amaranthus graecizans L. Tumble-weed.

Fields, waste places, and rocky open ground. Indifferent. General.

Amaranthus graecizans var. *pubescens* Uline & Bray.

Waste and cultivated ground. Occasionally growing with the typical form. Jackson Co.

Amaranthus blitoides Wats. Spreading Pig-weed.

Waste and cultivated ground. Indifferent. General.

AMARANTHUS SPINOSUS L. Spiny Amaranth.

Waste and cultivated ground. Indifferent. General.

Acnida tuberculata Moq. Water Hemp.

Wet ground about sloughs, ponds, and streams. Circumneutral. Scattered, but commonest along the large rivers.

Acnida tuberculata var. *prostrata* (Uline & Bray) Robinson.

Sand bars and mud flats along streams, and in waste ground. Circumneutral. Scattered: Pike, St. Louis, and Jackson counties.

Acmispa tuberculata var. *subnuda* Wats.

Commonly occurring with the typical form.

Acmispa tamariscina (Nutt.) Wood. Water Hemp.

Cultivated fields and waste ground, mostly in moist alluvial soil. Circumneutral. General.

Cladothrix lanuginosa Nutt.

Introduced from the Southwest. Waste ground. Jackson Co.

Iresine paniculata (L.) Ktze. Blood-leaf, Juba's Bush.

Low wet woods and thickets. Central and southern Mo., scattered: St. Louis, Jefferson, Franklin, Ripley, Dent, Pulaski, Maries, Ozark, Jasper, Newton, and McDonald counties.

Froelichia floridana (Nutt.) Moq.

Froelichia campestris Small (B & B).

Sandy open ground and along railroads. Oxylophile. Eastern and central Mo., mostly near the larger rivers: Lewis, St. Louis, Madison, Scott, Mississippi, Dunklin, Butler, Reynolds, Boone, and Jackson counties.

Froelichia gracilis Moq.

Dry rocky ground and sandy barrens. Oxylophile. Eastern, central, and southern Mo.: Marion, Lincoln, St. Charles, St. Francois, Perry, Bollinger, Wayne, Dunklin, Howard, Moniteau, Jackson, and Jasper counties.

Fam. PHYTOLACCACEAE

Phytolacca americana L. See Rh. 17: 180. 1915. Pokeweed, Pokeberry.

Phytolacca decandra L. (G).

Fields, roadsides, and waste ground. Indifferent. General and probably in every county. The young shoots eaten as greens by the country people, and the juice of the ripe berries formerly used as ink.

Fam. NYCTAGINACEAE

Oxybaphus nyctagineus (Michx.) Sweet. Wild Four-o'clock.

Allionia nyctaginea Michx. (B & B).

Open and waste ground. Circumneutral. General.

Oxybaphus floribundus Chois. Umbrella-wort.

Rocky open slopes and glades. Calciphile. General but scattered: Clark, St. Louis, Jefferson, Wayne, Ripley, Dent, Holt, Carroll, Jackson, and Jasper counties.

Oxybaphus hirsutus (Pursh) Sweet.

Dry open ground and glades. Circumneutral. Scattered: Nodaway, Boone, Ozark, and Jackson counties.

Oxybaphus hirsutus var. *integrifolius* Chois.

Ozybaphus pilosus (Nutt.) Sweet.

Glades and rocky open ground. Calciphile. Southwestern Mo.: McDonald Co.

Oxybaphus albidus (Walt.) Sweet. Umbrella-wort.

Allionia albida Walt. (B & B).

Allionia bracteata Rydb. (R).

Allionia lanceolata of Standley, not Rydb.

Rocky open woods, prairies, glades, and open ground. Calciphile to circumneutral. General: Holt, Worth, Gentry, Dekalb, St. Louis, Warren, Montgomery, Mississippi, Stoddard, Ripley, Shannon, Maries, Crawford, Dent, Phelps, Pulaski, Boone, Clinton, Jackson, Dallas, Polk, Hickory, LaClede, Johnson, Henry, Greene, Ozark, Vernon, Jasper, and McDonald counties.

Oxybaphus linearis (Pursh) Robinson.

Allionia linearis Pursh (B & B).

Oxybaphus Bushii Britton.

Rocky prairies and glades. Calciphile. Central and southern Mo.: St. Louis, Ste. Genevieve, Washington, Boone, Pulaski, Wright, Taney, Jackson, Benton, Jasper, Newton, and Barry counties.

Fam. ILLECEBRACEAE

Anychia polygonoides Raf. Forked Chickweed.

Rocky open woods and glades. Oxylophile. General: Mercer, Sullivan, Linn, Randolph, Shelby, Monroe, Audrain, Boone, Lincoln, St. Louis, Jefferson, St. Francois, Mississippi, Pemiscot, Dunklin, Ripley, Oregon, Carter, Shannon, Reynolds, Iron, Dent, Texas, Phelps, Pulaski, Maries, Miller, Camden, LaClede, Hickory, Dallas, Greene, Ozark, Jackson, Henry, Cedar, Jasper, Newton, and McDonald counties.

Anychia canadensis (L.) BSP.

Dry open woods. Oxylophile to circumneutral. General: Schuyler, Putnam, Sullivan, Knox, Shelby, Ralls, Boone, Warren, St. Louis, Jefferson, Ste. Genevieve, St. Francois, Bollinger, Wayne, Ripley, Shannon, Reynolds, Dent, Phelps, Howell, Douglas, Taney, Christian, Dallas, Webster, Greene, Hickory, Dekalb, Clinton, Jackson, Johnson, Vernon, Jasper, McDonald, and Barry counties.

Fam. AIZOACEAE

MOLLUGO VERTICILLATA L. Carpet-weed.

Waste and cultivated ground. Indifferent. General and common.

Geocarpon minimum Mack. *Torreya* 14: 67. 1914.

Sandy barrens. Oxylophile. Rare and local: Jasper Co.

Fam. CARYOPHYLLACEAE

SPERGULA ARvensis. Corn Spurrey.

Waste and cultivated ground. Indifferent. Scattered: Jackson, Greene, and Jasper counties.

Sagina decumbens (Ell.) T. & G. Pearlwort.

Waste ground, fallow fields, and rocky open or sandy ground, usually in alluvial or sandy soils. Oxylophile to circumneutral. Central and southern Mo.: Boone, Callaway, St. Louis, Jefferson, Franklin, Ste. Genevieve, St. Francois, Bollinger, Madison, Dunklin, Butler, Ripley, Oregon, Reynolds, Wayne,

Dent, Shannon, Texas, Osage, Phelps, Maries, Pulaski, Miller, Camden, Dallas, Laclede, Polk, Webster, Henry, Douglas, Greene, Cedar, Saline, Vernon, Jasper, and Newton counties.

Arenaria serpyllifolia L. Thyme-leaved Sandwort.

Sandy or rocky soil, glades, fields, ledges, and open places. Calciphile to circumneutral. General and common.

Arenaria patula Michx. Sandwort.

Glades and rocky prairies. Calciphile to circumneutral. Central and southern Mo.: Boone, Callaway, St. Louis, Jefferson, Franklin, Gasconade, Osage, Washington, St. Francois, Ste. Genevieve, Perry, Iron, Reynolds, Dunklin, Ripley, Oregon, Shannon, Maries, Texas, Phelps, Pulaski, Laclede, Camden, Miller, Cole, Hickory, Greene, Wright, Webster, Douglas, Christian, Taney, Ozark, Stone, Polk, Dade, St. Clair, Cedar, Barry, Jackson, Vernon, Jasper, Newton, and McDonald counties.

Arenaria stricta Michx. var. *texana* Robinson. Rock Sandwort.

Rocky slopes, ledges along bluffs, and glades. Calciphile to circumneutral. Eastern, central, and southern Mo.: Monroe, Lincoln, Jefferson, St. Francois, Washington, Boone, Camden, Texas, Greene, Christian, and McDonald counties.

Stellaria pubera Michx. var. *silvatica* (Béguinot) Weatherby, Rh. 26: 171. 1924.

Great Chickweed.

Alsine pubera (Michx.) Britton, in part (B & B).

Shaded slopes along bluffs. Circumneutral. Eastern Mo., local: Franklin Co.

STELLARIA MEDIA (L.) Cyrill. Chickweed.

Alsine media L. (B & B).

Waste ground, lawns, and cultivated ground. Indifferent. General.

Stellaria longifolia Muhl. Long-leaved Stitchwort.

Alsine longifolia (Muhl.) Britton (B & B).

Low open woods and moist meadows. Circumneutral. Eastern Mo.: Scotland, St. Louis, Jefferson, Madison, and Cape Girardeau counties.

STELLARIA GRAMINEA L. Narrow-leaved Stitchwort.

Alsine graminea (L.) Britton (B & B).

Lawns, meadows, and waste ground. Indifferent. Introduced in Boone Co.

CERASTIUM VULGATUM L. var. *HIRSUTUM* Fries. See Rh. 22: 178. 1920. Mouse-ear, Chickweed.

Cerastium vulgatum of auth., not L. (G), (B & B).

Waste and cultivated ground, and moist meadows. Indifferent. General and common.

Cerastium brachypodium (Engelm.) Robinson.

Rich open woods, rocky slopes, moist meadows, waste and cultivated ground. Circumneutral. Commonest in eastern, central, and southern Mo. and locally north in Schuyler and Atchison counties.

Cerastium nutans Raf. Nodding Chickweed.

Moist meadows, rich rocky woods, cultivated and waste ground. Indifferent. General.

CERASTIUM VISCOMUM L. Clammy Chickweed.

Moist alluvial and cultivated ground, and wet rocky woods. Oxyophile to circumneutral. General.

Cerastium arvense L. var. *oblongifolium* (Torr.) Hollick & Britton.

Low wet ground, and on moist siliceous or granitic rocks. Oxyophile. Eastern Mo., south of Missouri River: St. Louis, Jefferson, St. Francois, Ste. Genevieve, Madison, Iron, and Wayne counties.

AGROSTEMMA GITHAGO L. Corn Cockle.

Cultivated and waste ground, and along roadsides and railroads. Indifferent. General.

DIANTHUS DELTOIDES L. Maiden Pink.

Introduced in waste ground. Franklin Co.

DIANTHUS ARMERIA L. Deptford Pink.

Rocky open woods, sandy open and waste ground. Oxyophile to circumneutral. Central and southern Mo. south and east of a line from Lincoln, Montgomery, Boone, and Henry counties to McDonald Co.

DIANTHUS BARBATUS L. Sweet William.

Cultivated and rarely escaped to roadsides and waste ground. Jasper Co.

LYCHNIS ALBA Mill. White Campion.

Waste and cultivated ground. Indifferent. Scattered: Harrison, Marion, Lincoln, Warren, St. Louis, Franklin, Bollinger, Pulaski, Howell, Texas, Boone, Saline, Clay, Jackson, and Jasper counties.

LYCHNIS DIOICA L. Red Campion.

Escaped into waste ground. Jackson Co. This has sometimes been mistaken for *Silene noctiflora*.

Silene antirrhina L. Sleepy Catchfly.

Field, open woods, and cultivated and waste ground. Indifferent. General.

Silene antirrhina var. *divaricata* Robinson.

Occasionally occurring with the typical form. Holt and Jackson counties.

Silene nivea (Nutt.) Otth.

Moist or wet banks of streams, and also introduced in waste ground and along railroads. Circumneutral. Northern and central Mo.: Sullivan, Boone, and Audrain counties.

SILENE LATIFOLIA (Mill.) Britten & Rendle. Bladder Campion.

Introduced in Platte and Jackson counties.

SILENE NOCTIFLORA L. Night-flowering Catchfly.

Waste and cultivated ground. Indifferent. Scattered: St. Louis, Franklin, Boone, Saline, and Jasper counties.

SILENE GALlica L.

Old fields and waste ground. Indifferent. Cape Girardeau and Jackson counties.

Silene virginica L. Indian Pink, Fire Pink.

Rocky woods and along moist cliffs and banks. Oxyophile to circumneutral. East-central and southern Mo., mostly in the Ozark region: Montgomery, Jefferson, Ste. Genevieve, St. Francois, Washington, Crawford, Bollinger, Madison,

Wayne, Carter, Butler, Iron, Reynolds, Shannon, Dent, Oregon, Howell, Texas, Wright, Webster, Greene, Douglas, Ozark, Taney, Stone, Barry, and McDonald counties.

Silene regia Sims. Royal Catchfly.

Rocky prairies, rocky open woods, and thickets. Circumneutral. East-central and southern Mo., Ozark region: St. Louis, Jefferson, Franklin, Washington, Crawford, Dent, Shannon, Texas, Phelps, Pulaski, Maries, Miller, Cole, Greene, Barry, Jasper, and McDonald counties.

Silene stellata (L.) Ait. f. Starry Campion.

Rich upland woods and thickets. Circumneutral. General.

Silene Wherryi Small, Torreya 26: 66, fig. 1926.

Rocky chert woods and bluffs. Oxylophile to circumneutral. Central Ozark region, southern Mo.: Phelps, Dent, Texas, Shannon, Pulaski, Laclede, and Douglas counties.

Silene Wherryi × *virginica*.

Rocky chert woods, growing with the parent species. Local: Shannon Co.

SAPONARIA OFFICINALIS L. Bouncing Bet, Soapwort.

Cultivated in old gardens and freely escaped into fields, gravel bars, and waste ground, and along roadsides and railroads. Indifferent. General.

SAPONARIA VACCARIA L. Cow-herb.

Open waste ground, and along railroads and roadsides. Indifferent. Scattered: Marion, Ralls, Greene, Jackson, and Jasper counties.

Fam. PORTULACACEAE

Claytonia virginica L. Spring Beauty.

Rich or rocky woods and prairies. Circumneutral. General.

Claytonia virginica f. *robusta* (Somes) Palmer & Steyermark, comb. nov.

Claytonia multicaulis var. *robusta* Somes.

Claytonia robusta (Somes) Rydb.

Occasionally found with the typical form, growing in rich woods. Circumneutral. Scattered: Ste. Genevieve, Madison, Boone, Cooper, Jackson, Douglas, and Jasper counties.

Talinum parviflorum L.

Glades and barrens. Oxylophile, usually on sandstone or chert and occasionally on leached limestone. Southern Mo.: St. Charles, St. Louis, Jefferson, Ste. Genevieve, Madison, Polk, Greene, Cedar, Dade, Lawrence, Vernon, Jasper, and Newton counties.

Talinum calycinum Engelm. Rock Pink, Flame Flower.

Glades and exposed rocky ledges. Oxylophile to circumneutral; usually found on sandstone, chert, or granitic rocks, but occasionally on limestone. Central and southern Mo.: Montgomery, Lincoln, St. Louis, Jefferson, Franklin, St. Francois, Ste. Genevieve, Madison, Iron, Ripley, Shannon, Texas, Gasconade, Wright, Laclede, Pulaski, Maries, Miller, Dallas, Cooper, Benton, Polk, Hickory, St. Clair, Cedar, Greene, Ozark, Taney, Stone, Barry, Jackson, Vernon, Jasper, and Newton counties.

PORTULACA OLERACEA L. Purslane, Pursley.

Cultivated and waste ground. Indifferent. General and common.

Portulaca neglecta Mack. & Bush.

Rich alluvial fields and prairies. Western Mo.: Jackson, Johnson, and Jasper counties.

Portulaca retusa Engelm. Notched Purslane.

Limestone and chert glades. Oxylophile to circumneutral. Southwestern Mo.: Jasper and Newton counties.

Portulaca parvula Gray. See N. Am. Fl. 21: 334. 1922.

Portulaca pilosa of auth., not L. (G), (B & B).

Rocky prairies and glades. Oxylophile to circumneutral. Western Mo., south of Missouri River: Jackson, Polk, Greene, Barton, Jasper, and Newton counties.

PORTULACA GRANDIFLORA Hook. Portulaca, Rose Moss.

Common in cultivation and occasionally escaped into waste or open ground.

Fam. CERATOPHYLLACEAE

Ceratophyllum demersum L. Hornwort.

Sloughs, sluggish streams, and ponds. Circumneutral. General but scattered: St. Charles, St. Louis, Perry, Dunklin, Reynolds, Oregon, Pulaski, Texas, Boone, Saline, Jackson, Barton, and Jasper counties.

Fam. NYMPHAEACEAE

Nymphoides advena (Ait.) Fernald, Rh. 21: 186. 1919. Spatter Dock, Yellow Pond-lily.

Nymphaea advena Ait. (G), (B & B).

Ponds, sloughs, and slow streams. General but scattered: Lincoln, St. Charles, St. Louis, Jefferson, Franklin, Dunklin, Butler, Laclede, Bates, Vernon, Barton, Jasper, and Newton counties.

Nymphoides ozarkanus (Miller & Standley) Palmer & Steyermark, comb. nov.

Nymphaea ozarkana Miller & Standley, Contr. U. S. Nat. Herb. 16: 91. 1912.

Ponds, sloughs, and streams. Circumneutral. Southern Mo., mostly in the eastern Ozark region: Washington, Dent, Iron, Reynolds, Carter, Ripley, Oregon, Shannon, Texas, Howell, Douglas, Dallas, Greene, and Taney counties.

Nymphaea tuberosa Paine, See Rh. 18: 120. 1916. Tuberous Water-lily.

Castalia tuberosa (Paine) Greene (G), (B & B).

Slow streams and ponds. Circumneutral. Eastern Mo., scattered: St. Louis and Dunklin counties.

Nymphaea odorata Ait. Water-lily, sweet-scented Water-lily.

Castalia odorata (Ait.) Woodville & Wood (G), (B & B).

Ponds and sloughs. Circumneutral. Scattered: St. Louis, Butler, Boone, Ray, Vernon, Barton, and Jasper counties. Often cultivated and escaped in places.

Nelumbo pentapetala (Walt.) Fernald, Rh. 36: 23-24. 1934. Yanquapin, Water Chinquapin, Yellow Lotus.

Nelumbo lutea (Willd.) Pers. (G), (B & B).

Lakes, ponds, and sloughs. Circumneutral. General but scattered: Harrison, Adair, Audrain, Boone, Lincoln, St. Charles, St. Louis, Stoddard, Dunklin, Carter, Shannon, Phelps, Laclede, Camden, Webster, Greene, Dade, Buchanan, Platte, Jackson, Cass, Bates, Barton, Jasper, and Newton counties.

Nelumbo nucifera Gaertn. Oriental Lotus.

Introduced in a lake in Iron Co.

Cabomba caroliniana Gray. Carolina Water-shield.

Swamps and sloughs. Circumneutral. Eastern Mo.: St. Charles, St. Louis, Wayne, Dunklin, and Butler counties.

Brasenia Schreberi Gmel. Water-shield.

Ponds and sloughs. Circumneutral. East-central and southern Mo., scattered: Audrain, St. Charles, St. Louis, St. Francois, Iron, Texas, Taney, Barton, and Jasper counties.

Fam. RANUNCULACEAE

Ranunculus aquatilis L. var. *capillaceus* DC. White Water Crowfoot.

Sloughs, ponds, and streams. Circumneutral. Central and southern Mo.: St. Louis, Crawford, Butler, Ripley, Oregon, Shannon, Pulaski, Howell, Laclede, Dallas, Greene, Jackson, Jasper, and Newton counties.

Ranunculus longirostris Godron.

Ponds. Circumneutral. Local: St. Louis Co.

Ranunculus delphinifolius Torr. Yellow Water Crowfoot.

Ranunculus delphinifolius var. *terrestris* (Gray) Farwell, a mere terrestrial state of the above.

Swamps, bayous, ponds, and streams, in shallow water or on muddy banks. Circumneutral. Scattered, mostly near the larger rivers and absent from most of the Ozark region: Shelby, Ralls, St. Charles, St. Louis, Jefferson, Madison, Bollinger, Scott, Dunklin, Butler, Livingston, Buchanan, and Jackson counties.

Ranunculus Cymbalaria Pursh f. *hebecaulis* Fernald, Rh. 16: 162. 1914. Seaside Crowfoot.

Sand bars and sandy open ground. Calciphile to circumneutral. Western Mo., northward from the Missouri River: Holt, Clay, and Jackson counties.

Ranunculus laxicaulis (T. & G.) Darby. Water Plantain Spearwort.

Moist open ground and borders of sloughs and ditches. Circumneutral. Scattered: Montgomery and Greene counties.

Ranunculus oblongifolius Ell. Spearwort.

Low wet woods and swamps. Oxylophile to circumneutral. East-central and southern Mo.: St. Charles, St. Louis, Jefferson, Mississippi, New Madrid, Dunklin, Howell, Butler, Webster, Greene, Barton, and Jasper counties.

Ranunculus pusillus Poir.

Swamps and low wet woods. Circumneutral. Eastern Mo., south of the Missouri River: St. Louis, Iron, Mississippi, New Madrid, Dunklin, Butler, and Texas counties.

Ranunculus sceleratus L. Cursed Crowfoot.

Moist alluvial open ground and sand bars. Northern and central Mo., mostly

near the larger rivers: Marion, Montgomery, St. Charles, St. Louis, Ste. Genevieve, Boone, Howard, Saline, Gentry, Holt, Platte, Jackson, and Vernon counties.

Ranunculus micranthus Nutt.

Open rocky woods, and moist or alluvial open ground. Circumneutral. Eastern, central, and southern Mo.: Adair, Pike, St. Louis, Jefferson, Franklin, St. Francois, Oregon, Shannon, Crawford, Phelps, Howell, Boone, Moniteau, Montgomery, Clay, Jackson, Greene, Taney, Barry, Jasper, Newton, and McDonald counties.

Ranunculus abortivus L. Small-flowered Crowfoot.

Moist alluvial or rocky woods, and open or waste ground. Circumneutral. General.

Ranunculus Harveyi (Gray) Britton.

Rocky open woods and ledges. Oxylophile to circumneutral. Central and southern Mo.: Montgomery, Gasconade, Osage, St. Louis, Jefferson, Washington, Franklin, Crawford, Dent, Madison, Wayne, Iron, Reynolds, Carter, Maries, Phelps, Pulaski, Texas, Camden, Dallas, Laclede, Greene, Barry, and McDonald counties.

Ranunculus Harveyi f. pilosus (Benke) Palmer & Steyermark, comb. nov.

Ranunculus Harveyi var. *pilosus* Benke, Rh. 30: 200. 1928.

Sometimes occurring with the typical form, but scarcely distinct enough to deserve varietal rank.

Ranunculus recurvatus Poir. Hooked Crowfoot.

Rich or rocky open woods. Circumneutral. General.

Ranunculus fascicularis Muhl. Prairie Buttercup.

Rocky prairies, open woods, banks, and glades. Circumneutral to oxylophile. General.

Ranunculus septentrionalis Poir. Swamp Buttercup.

Rich or wet woods, and borders of sloughs and ponds. Circumneutral. General.

Ranunculus caricetorum Greene.

Ranunculus sicciformis Mack. & Bush.

Low wet prairies. Circumneutral. Local: Jackson Co. Similar to the last and perhaps not specifically distinct.

Ranunculus hispidus Michx.

Rocky open woods. Circumneutral to oxylophile. General but commonest in the Ozark region: Marion, St. Louis, Jefferson, Franklin, Bollinger, Iron, Wayne, Ripley, Shannon, Texas, Warren, Boone, Cole, Morgan, Camden, Howell, Greene, Webster, Douglas, Christian, Stone, Barry, Platte, Jackson, Jasper, Newton, and McDonald counties.

Ranunculus hispidus var. falsus Fernald, Rh. 22: 30. 1920.

Sometimes found with the typical form.

RANUNCULUS REPENS L. See Rh. 21: 169. 1919. Creeping Buttercup.

Low wet woods and open ground. Circumneutral. Local: St. Louis Co.

RANUNCULUS PARVIFLORUS L.

Swampy woods and open ground. Oxylophile. Southeastern Mo.: Butler and Dunklin counties.

RANUNCULUS ACRIS L. Meadow Buttercup.

Meadows and waste ground. Circumneutral. Introduced in St. Louis and Jackson counties.

Myosurus minimus L. Mouse-tail.

Low open woods and moist fields. Circumneutral. General.

Trautvetteria carolinensis (Walt.) Vail. False Bugbane.

Moist limestone bluffs. Calciphile. Rare and local: Shannon Co.

Thalictrum dioicum L. Early Meadow Rue.

Rich rocky woods and ledges along shaded bluffs. Circumneutral to calciphile. General, but scattered: Adair, St. Louis, Jefferson, Franklin, Carter, Reynolds, Shannon, Oregon, Howell, Morgan, Jackson, Benton, and Stone counties.

Thalictrum dasycarpum Fisch. & Lall. Meadow Rue.

Rich or rocky woods, and moist open ground. Circumneutral. General.

Thalictrum revolutum DC.

Rich or rocky woods. Circumneutral. General but less common than the last species.

Anemonella thalictroides (L.) Spach. Rue Anemone.

Rich or rocky woods. Circumneutral. General.

Hepatica americana (DC.) Ker. See Rh. 19: 45. 1927. *Hepatica*, Liver-leaf.

Hepatica triloba of Am. auth., not Chaix. (G.).

Hepatica Hepatica (L.) Karst. (B & B).

Rocky hillside woods and bluffs. Oxylophile to circumneutral. Southern Mo.; Iron, Reynolds, Dent, Shannon, Oregon, Howell, Texas, Wright, Douglas, Ozark, Webster, Greene, Christian, Taney, Stone, and Barry counties.

Hepatica americana f. *candida* Fernald, Rh. 19: 46. 1917.

Commonly found throughout the range of the typical form in Missouri.

Hepatica acutiloba DC. Hepatica, Liver-leaf.

Rocky hillside woods and bluffs. Calciphile to circumneutral. Eastern and middle Missouri: Schuyler, Adair, Clark, Marion, Pike, Boone, Callaway, Warren, Montgomery, St. Charles, St. Louis, Jefferson, Franklin, Crawford, Washington, St. Francois, Ste. Genevieve, Perry, Bollinger, Cape Girardeau, Iron, Wayne, Carter, Reynolds, and Shannon counties.

Hepatica acutiloba f. *albiflora* Hoffmann, Proc. Bost. Soc. Nat. Hist. 36: 268. 1922.

Commonly found throughout the range of the typical form in Mo.

Hepatica acutiloba f. *rosea* Hoffmann, Proc. Bost. Soc. Nat. Hist. 36: 268. 1922.

Commonly found throughout the range of the typical form in Mo.

Anemone caroliniana Walt. Prairie Anemone.

Prairies, meadows, glades, waste ground, and along roadsides. Circumneutral. Western and middle Mo.: Boone, Pulaski, Morgan, Dallas, Johnson, Henry, St. Clair, Cedar, Lawrence, Barry, Jackson, Cass, Bates, Vernon, Barton, Greene, Jasper, Newton, and McDonald counties.

Anemone cylindrica Gray. Thimbleweed.

Prairies and open woods. Circumneutral to calciphile. Northwestern and west-central Mo.: Atchinson, Nodaway, Holt, and Jackson counties.

Anemone virginiana L. Thimbleweed.

Prairies and open woods. Circumneutral. General.

Anemone virginiana f. *leucosepala* Fernald, Rh. 19: 140. 1917.

In similar situations to the typical form. Found throughout the range of the species in Mo.

Anemone canadensis L. White Anemone.

Low open woods and meadows. Circumneutral. Northern, central, and eastern Mo., mainly near the larger rivers: Clark, Marion, St. Louis, Jefferson, Franklin, Ste. Genevieve, Madison, Butler, Boone, Saline, Atchison, Holt, Andrew, Platte, Clay, and Jackson counties.

Clematis virginiana L. Virgin's Bower.

Woods and thickets along streams. Circumneutral. General.

Clematis virginiana var. *missouriensis* (Rydb.) Palmer & Steyermark, comb. nov.

Clematis missouriensis Rydb. (G), (B & B).

Rocky woods and thickets along streams. Circumneutral. Central, southern, and western Mo.: Scott, Butler, Shannon, Maries, Cole, Saline, Gentry, Douglas, Greene, Christian, Taney, Stone, Barry, Jasper, and McDonald counties.

Clematis Viorna L. Leather Flower.

Rich woods and bluffs. Circumneutral. Southern Mo.: Bollinger and Taney counties.

Clematis versicolor Small.

Rocky woods and bluffs. Circumneutral. Southern Mo.: Oregon, Ozark, Taney, Greene, Stone, Barry, and McDonald counties.

Clematis Pitcheri T. & G. Leather Flower, Bluebell.

Viorna Pitcheri (T. & G.) Britton (B & B).

Thickets and rocky woods. Circumneutral to calciphile. General.

Clematis crispa L. Swamp Leather Flower.

Low wet woods and borders of swamps. Circumneutral. Southern Mo.: Scott, Mississippi, Pemiscot, Dunklin, Stoddard, Butler, Ripley, Ozark, and Newton counties.

Clematis Fremontii Wats.

Limestone glades. Calciphile. Eastern Mo., south of the Missouri River: St. Louis, Jefferson, Franklin, St. Francois, and Washington counties.

Isopyrum binternatum (Raf.) T. & G. False Rue Anemone.

Rich woods. Circumneutral to calciphile. General.

Aquilegia canadensis L. Wild Columbine.

Aquilegia coccinea Small (S).

Shaded rich woods, rocks and bluffs; usually on limestone. Calciphile to circumneutral. General.

Aquilegia canadensis var. *flaviflora* (Tenney) Britton.

Occasionally occurring with the species. Northwestern Mo., local: Buchanan Co.

DELphinium AJACIS L. Larkspur.

Commonly cultivated in old gardens and often escaping. General.

Delphinium tricorne Michx. Dwarf Larkspur.

Rocky woods and thickets. Circumneutral. General.

Delphinium Treleasei Bush. Glade Larkspur.

Glades and rocky slopes of bald knobs. Calciphile. Southwestern Mo.: Greene, Taney, Stone, and Barry counties.

Delphinium azureum Michx.

Rocky open woods, glades, and prairies. Calciphile to circumneutral. Central and southern Mo.: Franklin, Crawford, Dent, Shannon, Carter, Phelps, Pulaski, Marion, Cole, Texas, Howell, Laclede, Wright, Webster, Taney, Miller, Douglas, Ozark, Greene, and Barry counties. This species and *Delphinium Penardii* intergrade in color considerably.

Delphinium azureum var. *Nortonianum* (Mack. & Bush) Palmer & Steyermark, comb. nov.*Delphinium Nortonianum* Mack. & Bush (G).

Rocky upland open woods, glades, and prairies. Oxylophile to circumneutral. Southern Mo.: Crawford, Carter, Shannon, Oregon, Texas, Howell, Douglas, Ozark, Stone, Taney, Wright, Barry, and McDonald counties. The characters upon which *Delphinium Nortonianum* were based have been found to merge with typical *Delphinium azureum* in certain degrees, and it appears best treated as a variety of the latter species.

Delphinium Penardii Huth. Prairie Larkspur.*Delphinium camorum* Greene (B & B).

Rocky prairies and glades. Circumneutral. Northern, central, and southwestern Mo., apparently absent from much of the Ozark region and from the southeastern lowlands: Clark, Adair, Macon, Linn, Ralls, Lincoln, St. Louis, Boone, Saline, Miller, Camden, Laclede, Dallas, Atchison, Grundy, Daviess, Caldwell, Jackson, Cass, Bates, Vernon, Henry, St. Clair, Greene, Webster, Stone, Dade, Lawrence, Barry, Jasper, Newton, and McDonald counties.

Cimicifuga racemosa (L.) Nutt. Bugbane, Black Snakeroot.

Rocky woods and bluffs. Circumneutral to oxylophile. East-central and southern Mo.: St. Louis, St. Francois, Bollinger, Madison, Dent, Iron, Wayne, Reynolds, Carter, Butler, Ripley, Oregon, Shannon, Howell, Texas, Wright, Webster, Greene, Douglas, Ozark, Stone, Barry, and Jasper counties.

Actaea brachypoda Ell. White Baneberry.*Actaea alba* (L.) Mill. (G), (B & B).

Rich woods and banks of small streams. Circumneutral. Eastern, middle, and southern Mo., and locally in northwestern Mo.: Schuyler, Adair, Clark, Marion, Boone, Warren, St. Louis, Jefferson, Franklin, St. Francois, Perry, Scott, Stoddard, Shannon, Texas, Dent, Crawford, Phelps, Pulaski, Camden, Laclede, Atchison, Greene, and Barry counties.

Hydrastis canadensis L. Golden Seal.

Rich woods and thickets. Circumneutral. Central and southern Mo.: well distributed but nowhere common: St. Louis, Jefferson, Franklin, St. Francois, Iron, Bollinger, Dunklin, Ripley, Carter, Shannon, Texas, Phelps, Miller, Cole, Boone, Saline, Jackson, Johnson, Polk, Greene, Taney, Lawrence, Barry, and Jasper counties.

Fam. MAGNOLIACEAE

Magnolia acuminata L. Cucumber Tree.

Low hills and rocky bluffs. Circumneutral. Southern Mo.: Cape Girardeau, Scott, Stoddard, Dunklin, Butler, and Ozark counties.

Magnolia acuminata var. *ozarkensis* Ashe, Jour. Elisha Mitchell Sci. Soc. 41: 269. 1926.

Along rocky bluffs. Circumneutral. Southwestern Mo.: Barry Co.

Liriodendron Tulipifera L. Tulip Tree, Yellow Poplar.

Upland woods and along small streams. Circumneutral. Southeastern Mo.: Perry, Cape Girardeau, Bollinger, Scott, Mississippi, Dunklin, Stoddard, and Butler counties.

Fam. ANNONACEAE

Asimina triloba Dunal. Papaw.

Rich woods and along bluffs and streams. Circumneutral. General.

Fam. MENISPERMACEAE

Cocculus carolinus (L.) DC. Fishberry.

Rocky woods and thickets. Circumneutral. Southern Mo., and locally northward along the large rivers: Marion, Ralls, Cole, Iron, Reynolds, Wayne, Mississippi, Dunklin, Ripley, Oregon, Shannon, Howell, Ozark, Douglas, Taney, Stone, Barry, Greene, Cedar, Vernon, Barton, Jasper, Newton, and McDonald counties.

Menispermum canadense L. Moonseed, Yellow-root.

Moist woods and thickets. Circumneutral. General.

Calycocarpum Lyoni (Pursh) Nutt. Cup-seed.

Thickets and low alluvial fields. Circumneutral. East-central and southern Mo.: St. Louis, Jefferson, Franklin, Madison, Scott, Mississippi, Stoddard, Dunklin, Ripley, Carter, Oregon, Dent, Shannon, Pulaski, Douglas, Ozark, Taney, Stone, Cedar, Barry, Jasper, Newton, and McDonald counties.

Fam. BERBERIDACEAE

Podophyllum peltatum L. May Apple, Mandrake.

Open woods and thickets. Circumneutral to calciphile. General.

Caulophyllum thalictroides (L.) Michx. Blue Cohosh.

Rich woods and moist banks along bluffs. Circumneutral to calciphile. General but uncommon: Mercer, Schuyler, Marion, Boone, Warren, St. Louis, Jefferson, Franklin, Shannon, Texas, Howell, Phelps, Pulaski, Camden, Laclede, Ozark, Greene, Clay, Jackson, and Jasper counties.

Berberis canadensis Mill. American Barberry.

Rocky woods and bluffs, on limestone and sandstone. Oxylophile. Southeastern Mo., local: Shannon, Texas, and Howell counties.

Berberis vulgaris L. European Barberry.

Cultivated and rarely escaped into pastures and open woods. Clark and Marion Counties.

Berberis Thunbergii DC. Japanese Barberry.

Cultivated and rarely escaped into open woods and open ground. Marion Co.

Fam. LAURACEAE

Sassafras officinale Nees & Eberm. Sassafras.

Sassafras variifolium (Salisb.) Ktze. (G).

Sassafras Sassafras (L.) Karst. (B & B).

Borders of woods and thickets, dry or sterile soil. Oxyophile to circumneutral. Eastern, central, and southern Mo.; south of a line drawn from Marion to Lafayette and Cass counties.

Sassafras officinale var. *albidum* (Nutt.) Blake, Rh. 20: 99. 1918.

Similar situations and range to those of the typical form, but less common.

Benzoin aestivale (L.) Nees. Spice Bush.

Woods and thickets, in moist alluvial or rocky soil. Circumneutral. Central and southern Mo.; commonest in the Ozark region.

Benzoin aestivale var. *pubescens* Palmer & Steyermark, var. nov.

Similar situations to the last. Circumneutral. Central and southern Mo.: Montgomery, St. Louis, Jefferson, New Madrid, Stoddard, Iron, Shannon, Dent, Ozark, Moniteau, Morgan, Hickory, Stone, Jasper, Newton, and McDonald counties.

A type recedit ramulis annotinis pubescentibus; foliis subtus ad nervos petioloisque pubescentibus margine ciliatis.

Differs from the typical form in the pubescent young branchlets and in the leaves, which are more or less pubescent, at least along the veins beneath, ciliate on the margins, and with pubescent petioles.

South Carolina, Georgia, Alabama, Mississippi, Louisiana, Tennessee, Kentucky, southern Illinois, and central and southern Missouri, to southeastern Kansas, Oklahoma, and eastern Texas. The occurrence of this undescribed pubescent variety throughout a large area has been the cause of considerable confusion and has been responsible for the wide range given in manuals to *Benzoin melissae-folium* (Walt.) Nees, which has been credited to Missouri, but which appears to be a rare species confined to the coastal plain and Piedmont regions of the southeastern states.

MISSOURI: Alba, Jasper Co., Sept. 12, 1922, E. J. Palmer 21923 (Arn. Arb. TYPE).

Fam. PAPAVERACEAE

Sanguinaria canadensis L. Bloodroot.

Rocky woods and moist rich ground along bluffs. Circumneutral to calciphile. General.

Sanguinaria canadensis var. *rotundifolia* (Greene) Fedde.

Wooded hillsides and bluffs along the Missouri River. Circumneutral to calciphile. Northwestern Mo., local: Atchison Co.

Chelidonium majus L. Celandine.

Introduced in waste ground. Jackson Co.

***Stylophorum diphyllum* (Michx.) Nutt. Celandine Poppy.**

Rocky woods, rich ground, and bluffs. Circumneutral. East-central and southern Mo., mostly in the eastern Ozark region: Warren, St. Charles, St. Louis, Jefferson, Washington, St. Francois, Madison, Stoddard, Wayne, Carter, Shannon, and Taney counties.

***Argemone intermedia* Sweet. Prickly Poppy.**

Open ground. Oxylophilic to circumneutral. Central and southern Mo., scattered: St. Louis, Dunklin, Butler, Jackson, and Greene counties. Introduced except perhaps in southeastern lowlands.

***Argemone alba* Lestiboudois.**

Waste and open ground. Indifferent. Southeastern Mo.: Butler Co., and also introduced in Jackson Co.

***Argemone mexicana* L. Mexican Poppy.**

Waste open ground and along railroads. Introduced in Knox, Phelps, Jackson, and Jasper counties.

***PAPAVER DUBIUM* L. Blind Eyes.**

Waste ground. Escaped from cultivation in Adair and Jackson counties.

***PAPAVER RHOEAS* L. Corn Poppy.**

Waste ground. Escaped in Adair and Cole counties.

***PAPAVER SOMNIFERUM* L. Common Poppy.**

Cultivated in gardens and escaped into waste ground: Jackson Co., and also recorded from Greene Co.

Fam. FUMARIACEAE***Dicentra cucullaria* (L.) Bernh. Dutchman's Breeches.**

Rich woods and moist rocky ground along bluffs. Circumneutral to calciphile. General.

***Dicentra canadensis* (Goldie) Walp. Squirrel Corn.**

Rich banks and along shaded bluffs. Circumneutral. Rare. Northern and central Mo.: Marion, Warren, St. Louis, Jefferson, Boone, and Jackson counties.

***Corydalis flavula* (Raf.) DC.**

Rich woods and moist rocky banks or ledges along bluffs. Circumneutral. General.

***Corydalis micrantha* (Engelm.) Gray.**

Rich woods, and along open or shaded banks and bluffs. Circumneutral. Western Mo.: Miller, Platte, Clay, Jackson, Henry, Webster, Wright, Stone, Jasper, Newton, and McDonald counties.

***Corydalis crystallina* Engelm.**

Open woods, prairies, and barrens. Circumneutral. Western Mo.: Livingston, Pettis, Cass, Bates, Vernon, Henry, St. Clair, Greene, Lawrence, Jasper, Newton, and McDonald counties.

***Corydalis campestris* (Britton) Buchholz & Palmer, Trans. Acad. Sci. St. Louis 25: 115. 1926.**

Capnoidea campestris Britton (B & B).

Rocky woods. Circumneutral. Southwestern Mo.: McDonald Co.

Corydalis aurea Willd.

Open or rocky woods, prairies, glades, fallow fields, ledges, and roadsides. Calciphile to circumneutral. General: Livingston, Grundy, Daviess, Adair, Ralls, St. Louis, Jefferson, Ste. Genevieve, Mississippi, Dunklin, Wayne, Carter, Phelps, Texas, Camden, Saline, Randolph, Wright, Polk, Clay, Jackson, Cass, Vernon, Greene, Jasper, and McDonald counties.

Corydalis aurea var. *occidentalis* Engelm.

Corydalis montanum (Engelm.) Britton (B & B).

Open or rocky woods, glades, and prairies. Circumneutral. Central and southern Mo.: St. Louis, Jefferson, Madison, Gasconade, Boone, Phelps, Crawford, Pulaski, Moniteau, Henry, St. Clair, Cedar, Jackson, and Jasper counties.

Fam. CRUCIFERAE

DRABA Verna L. Whitlow Grass.

Fields and waste ground. Circumneutral. Eastern and middle Mo., scattered: Marion, St. Louis, Boone, and Cole counties.

Draba reptans (Lam.) Fernald, Rh. 36: 368. 1934.

Draba caroliniana Walt. (G), (B & B).

Fields, glades, rocky ledges, and waste ground. Circumneutral to oxyophile; frequently on sandstone or cherty soils. General.

Draba reptans var. *micrantha* (Nutt.) Fernald, Rh. 36: 368. 1934.

Draba caroliniana var. *micrantha* (Nutt.) Gray (G).

Sandy bottoms and rocky glades. Oxyophile to circumneutral. Local: Jackson Co.

Draba cuneifolia Nutt.

Rocky open woods, glades, and rocky ledges. Calciphile to circumneutral. Central and southern Mo., south of a line drawn from Ralls and Boone counties to Jackson Co.

Draba brachycarpa Nutt.

Prairies, cultivated and fallow fields, and low open ground or glades. Circumneutral. Central and southern Mo. south of a line drawn from St. Charles, Audrain, and Randolph counties to Jackson Co.

BERTEROA INCANA (L.) DC. Hoary Alyssum.

Dry open ground. Circumneutral. Introduced in Greene Co.

Lesquerella gracilis (Hook.) Wats. Slender Bladder-pod.

Glades and rocky open woods. Calciphile. Southwestern Mo.: Greene, Dade, Lawrence, and Jasper counties, and also introduced in Bollinger Co.

Lesquerella angustifolia (Nutt.) Wats.

Glades and barrens. Calciphile. Southwestern Mo., local: Greene Co.

THLASPI AVENSE L. Penny Cress.

Waste ground, and along roadsides and railroads. Indifferent. Northern and central Mo., and perhaps more general: Macon, St. Charles, St. Louis, Jefferson, Franklin, Boone, Cooper, Chariton, Carroll, Gentry, Daviess, Atchison, Nodaway, and Jackson counties.

TEILARIA PELLITILLATUM L.

Along rocky stream bed. Introduced in Jefferson Co.

Lepidium virginicum L. Tonguegrass, Peppergrass.

Lepidium texanum Buckl. (B).

Fields, roadsides, and waste ground. Indifferent. General and common.

LEPIDIUM DENSIFLORUM Schrad.

Lepidium neglectum Thell.

Lepidium apetalum of auth., not Willd. (G.).

Fields, waste ground, and about dwellings. Indifferent. General but scattered.

LEPIDIUM PERFOLIATUM L.

Waste ground and along railroads and roadsides. Indifferent. Scattered: St. Louis, Madison, and Jackson counties.

LEPIDIUM CAMPESTRE (L.) R. Br.

Waste ground and along railroads. Indifferent. Northern, central, and eastern Mo., and occasional elsewhere: Adair, Knox, Ralls, Pike, Lincoln, St. Charles, St. Louis, Franklin, Madison, Iron, Laclede, Livingston, Carroll, Daviess, and Jackson counties.

LEPIDIUM DRABA L.

Waste ground. Circumneutral. Introduced in St. Louis Co.

CORONOPUS DIDYMYUS (L.) Sm.

Waste ground. Indifferent. Southeastern Mo.: Dunklin and Butler counties.

CAPSELLA BURSA-PASTORIS (L.) Medic. Shepherd's Purse.

Fields, roadsides, waste ground, and about dwellings. Indifferent. General and common.

CAMELINA SATIVA (L.) Crantz. False Flax.

Waste ground and along railroads. Indifferent. Scattered: St. Louis and Jackson counties.

CAMELINA MICROCARPA Andr.

Similar situations to the preceding and more common. Indifferent. General but scattered: St. Louis, Jefferson, Franklin, Iron, Cole, Clay, Jackson, Lawrence, and Jasper counties.

RAPHANUS SATIVUS L. Radish.

Introduced in fields and waste ground. Indifferent. Scattered: Boone and Jackson counties.

ERUCA SATIVA Mill. Garden Rocket.

Introduced along railroads. Indifferent. Scattered: Clark and Jackson counties.

ERUCASTRUM POLICHII Spenn.

Waste ground. Indifferent. Introduced in Jackson Co.

BRASSICA ALBA (L.) Boiss. White Mustard.

Fields and waste ground. Indifferent. General.

BRASSICA ARvensis (L.) Ktze. Charlock.

Fields, roadsides, and waste ground. Indifferent. General.

BRASSICA JUNcea (L.) Cossen. Indian Mustard.

Fields and waste ground. Indifferent. General.

BRASSICA JAPONICA Siebold. Curled Mustard.

Fields and waste ground. Indifferent. General but scattered: Pike, St. Louis, Boone, Jackson, and Jasper counties.

BRASSICA NIGRA (L.) Koch. Black Mustard.

Fields, waste ground, and roadsides. Indifferent. General.

BRASSICA CAMPESTRIS L. Rutabaga.

Open and waste ground. Indifferent. General.

CORNINGIA ORIENTALIS (L.) Dumort. Hare's-ear Mustard.

Waste ground and along roadsides and railroads. Indifferent. Scattered: St. Louis, Jefferson, St. Francois, Iron, Randolph, Boone, Daviess, Clay, and Jackson counties.

SISYMERIUM OFFICINALE (L.) Scop. Hedge Mustard.

Fields, waste ground, and along railroads. Indifferent. General.

SISYMBRIUM OFFICINALE VAR. **LEIOCARPUM** DC.

Frequently found with the typical form.

SISYMERIUM ALTISSIMUM L. Tumble Mustard.

Fields, waste ground, and along railroads. Indifferent. General.

DESCURAINIA SOPHIA (L.) Wetts.

Sisymbrium Sophia L. (G.).

Sophia Sophia (L.) Britton (B & B).

Prairie banks and waste ground. Circumneutral. Western Mo.: Jackson and Nodaway counties.

DESCURAINIA INTERMEDIA (Rydb.) Daniels. Tansy Mustard.

Sisymbrium canescens Nutt. var. *brachycarpon* (Richards.) Wats. (G.).

Sophia brachycarpa (Richards.) Rydb. (R.).

Sophia pinnata (Walt.) Howell (B & B), in part.

Glades, open banks, and prairies, roadsides, and dry rocky ledges along bluffs. Calciphile to circumneutral. General. This and the previous species have sometimes been confused with *Descurainia incisa* (*Sisymbrium incisum*) and *Descurainia canescens* (*Sisymbrium canescens*) which are not known to occur in Mo.

ARABIDOPSIS THALLIANA (L.) Heynh. Mouse-ear Cress.

Sisymbrium Thalianum (L.) J. Gay (G.).

Rocky or alluvial open ground and fields. Circumneutral. East-central and southern Mo., scattered: Callaway, St. Louis, Ste. Genevieve, Cape Girardeau, Stoddard, Pemiscot, and Ozark counties.

ERYTBIMUM EXPANDUM L.

Fields, waste ground, and along railroads. Indifferent. Central Mo., scattered: Jefferson, Franklin, Cole, Montgomery, Boone, and Jackson counties.

Erysimum asperum DC. Western Wall-flower.

Erygium arkansanum Nutt.

Glades and along rocky bluffs. Calciphile. Central and southern Mo.: St. Charles, St. Louis, Jefferson, Franklin, Osage, Maries, Miller, Camden, Benton, Cooper, Jackson, and Taney counties.

Erysimum cheiranthoides L. Worm-seed Mustard.

Fields and waste ground. Circumneutral. Scattered: Clark, St. Louis, Pulaski, and Jackson counties.

Roripa Nasturtium-aquaticum (L.) Schinz & Thell. Fl. Schweiz, ed. 3, 240. 1909.
Water Cress.

Radicula Nasturtium-aquaticum (L.) Britton & Rendle (G).

Sisymbrium Nasturtium-aquaticum L. (B & B).

In springs and clear running water. Calciphile to circumneutral. Abundant in central and southern Mo., and perhaps found throughout the state.

Roripa sinuata (Nutt.) Hitchc.

Radicula sinuata (Nutt.) Greene (G), (B & B).

Low open ground and alluvial banks of streams. Circumneutral. General but scattered: Marion, Ralls, St. Louis, Jefferson, Perry, Pemiscot, Camden, Boone, Cooper, Daviess, Atchison, Clay, and Jackson counties.

Roripa sessiliflora (Nutt.) Hitchc.

Radicula sessiliflora (Nutt.) Greene (G), (B & B).

Wet open woods and borders of sloughs, ponds, and streams. Circumneutral. General.

RORIPA SYLVESTRIS (L.) Bess. Yellow Cress.

Radicula sylvestris (L.) Druce (G), (B & B).

Wet meadows and banks of streams. Circumneutral. Scattered: St. Louis, Boone, Stone, and McDonald counties.

Roripa obtusa (Nutt.) Britton.

Radicula obtusa (Nutt.) Greene (G), (B & B).

Wet woods and borders of sloughs, ponds, and ditches. Circumneutral. General.

Roripa hispida (Desv.) Britton. See Rh. 30: 131. 1928. Marsh Water Cress.

Radicula palustris var. *hispida* (Desv.) Robinson (G).

Alluvial flats along the Mississippi River. Circumneutral. Local: Perry Co.

Roripa hispida var. *glabrata* Lunell. See Rh. 30: 133. 1928. Marsh Water Cress.

Radicula palustris of Am. auth., not Moench (G), (B & B).

Wet woods, borders of sloughs and ponds, and alluvial soils of streams and rivers. Circumneutral. General.

Roripa aquatica (Eat.) Palmer & Steyermark, comb. nov. Lake Cress.

Radicula aquatica (Eat.) Robinson (G).

Neobreckia aquatica (Eat.) Britton (B & B).

Sloughs and swampy woods. Circumneutral. Southern Mo., scattered: St. Louis, Jefferson, Ripley, Phelps, and Jasper counties.

RORIPA ARMORACIA (L.) Hitchc. Horseradish.

Radicula Armoracia (L.) Robinson (G).

Armoracia Armoracia (L.) Britton (B & B).

Cultivated and occasionally escaped into fields and waste ground. Indifferent. Scattered: Boone, Jackson, and Taney counties.

Barbara vulgaris R. Br. Yellow Rocket, Winter Cress.

Wet fields, moist meadows, and alluvial ground. Circumneutral. General.

Barbara vulgaris var. *longisiliquosa* Carion. See Rh. 11: 139. 1909.

Barbarea stricta of auth. in part, not Andr. (G), (B & B).

Moist meadows and alluvial ground. Circumneutral. Western Mo., local: Jackson Co. This has sometimes been confused with the preceding variety.

Selinia aurea Nutt.

Rocky prairies, chert, sandstone and leached limestone glades, sandy fields, and roadsides. Oxylophile. Southwestern Mo.: Benton, Polk, Webster, Greene, St. Clair, Cedar, Lawrence, Vernon, Jasper, and Newton counties.

Iodanthus pinnatifidus (Michx.) Steud. Purple Rocket.

Wet woods and moist alluvial thickets. Circumneutral. General.

Leavenworthia uniflora (Michx.) Britton.

Wet rocky ledges and depressions in glades. Calciphile. East-central and southern Mo.: St. Louis, Franklin, Jefferson, St. Francois, Washington, Crawford, Madison, Shannon, Maries, Gasconade, Montgomery, Phelps, Pulaski, Laclede, Miller, Camden, Dallas, Polk, Wright, Webster, Douglas, Taney, Stone, and Barry counties.

Dentaria laciniata Muhl. Toothwort, Pepper-root.

Rich or rocky woods. Circumneutral. General.

Dentaria laciniata var. *integra* (Schulz) Fernald.

Similar situations to the typical form. Circumneutral. Scattered throughout the range of the typical form.

Cardamine bulbosa (Schreb.) BSP. Spring Cress.

Wet woods and meadows, and along wet sandstone cliffs. Circumneutral to oxylophile. Eastern, central, and southern Mo., south of a line drawn from St. Louis, Montgomery, Audrain, and Randolph, to Camden and Jackson counties.

Cardamine pensylvanica Muhl.

Wet woods, bogs, and springy ground. Circumneutral. General.

Cardamine parviflora L. var. *arenicola* (Britton) O. E. Schulz. See Rh. 29: 192. 1927.

Cardamine parviflora of Am. auth., not L. (G), (B & B), in part.

Cardamine arenicola Britton (B & B), in part.

Wet open woods, fields, wet rocky ledges, and depressions in glades. Circumneutral to oxylophile. General.

Cardamine Douglassii (Torr.) Britton. Spring Cress.

Alluvial and moist woods. Circumneutral. Eastern and northern Mo.: Adair, Knox, Shelby, Chariton, and Cape Girardeau counties.

Arabis lyra L. Rock Cress.

Rocky bluffs or ledges, on limestone or sandstone. Calciphile to circumneutral. Eastern Mo., south of the Missouri River: St. Louis, Jefferson, Washington, Crawford, Shannon, and Texas counties.

Arabis dentata T. & G.

Rich woods, moist rocky ledges, and borders of streams. Circumneutral. Central and southern Mo.: Boone, Warren, St. Louis, Jefferson, Franklin, Washington, St. Francois, Ste. Genevieve, Scott, Stoddard, Shannon, Camden, Texas, Laclede, Morgan, Polk, Saline, Jackson, Benton, St. Clair, Wright, Douglas, Taney, Stone, and Jasper counties.

***Arabis virginica* (L.) Poir.** See Rh. 29: 192. 1927.

Open alluvial ground, fallow fields, and waste ground. Circumneutral to oxylophile. Central and southern Mo., south of a line drawn from Ralls and Chariton counties to Jackson Co.

***Arabis hirsuta* (L.) Scop.**

Rocky ledges and bluffs, usually on limestone. Calciphile to circumneutral. Eastern, central, and southern Mo., but apparently absent from much of the Ozark region: Clark, Lewis, Marion, Ralls, Boone, St. Louis, Jefferson, Franklin, Washington, Cape Girardeau, Carter, Shannon, Oregon, Webster, Christian, Taney, Stone, Jackson, Jasper, Newton, and McDonald counties.

***Arabis viridis* Harger.** Rh. 13: 38. 1911.

Dry rocky woods, rocky open ground and bluffs. Oxylophile. Southern and east-central Mo.: Ste. Genevieve, Madison, Wayne, Stoddard, Ripley, Carter, Iron, Washington, Franklin, Crawford, Dent, Reynolds, Oregon, Shannon, Texas, Phelps, Pulaski, Douglas, Stone, Ozark, Jasper, Newton, and McDonald counties. This species has previously been confused with *Arabis Drummondii*, *A. patens*, *A. brachycarpa*, and *A. glabra*, none of which occur in Missouri, and has also been confused with *A. laevigata*.

***Arabis laevigata* (Muhl.) Poir.**

Rich woods, along base of bluffs, alluvial ground along streams, and along bluffs and ledges. Circumneutral. Eastern, central, and Southern Mo., east and south of a line drawn from Marion, Shelby, Boone, and Henry counties to Vernon Co., and locally northwest in Platte Co.

***Arabis canadensis* L.** Sickle-pod.

Rocky woods and bluffs. Circumneutral. General.

Fam. CAPPARIDACEAE

***Polanisia graveolens* Raf.** Clammy-weed.

Rocky open ground, waste ground, and gravel bars along streams. Circumneutral to oxylophile. General but not common.

***Polanisia trachysperma* T. & G.**

In similar situations to the preceding. Circumneutral. Southwestern Mo.: Greene, Taney, Stone, Barry, and McDonald counties.

***Cleome serrulata* Pursh.** Rocky Mountain Bee-plant.

Loess hills and waste ground. Circumneutral. Northwestern Mo., and introduced in central Mo.: Atchison, Jackson, and St. Louis counties.

***CLEOME SPINOSA* L.** Spider-flower.

Cultivated in gardens and sometimes escaped into waste ground. Indifferent. Scattered: St. Louis, Pemiscot, Dunklin, Taney, Stone, Barry, and Jasper counties.

Fam. CRASSULACEAE

***Penthorum sedoides* L.** Ditch Stonecrop.

Low wet woods, swamps, and along sloughs and ditches. Circumneutral. General.

Sedum Nuttallianum Raf. Yellow-flowered Stonecrop.

Chert glades. Oxylophile to circumneutral. Southwestern Mo., local: Jasper and Newton counties.

Sedum pulchellum Michx. Widow's Cross.

Glades, rocky ledges, and bluffs. Calciphile to circumneutral; most frequently on limestone, but also found on granitic and siliceous rocks. Central and southern Mo., but commonest in the western Ozark region: Moniteau, Boone, Lincoln, Oregon, Texas, Dallas, Polk, Greene, Wright, Webster, Christian, Stone, Jackson, Cass, Henry, St. Clair, Cedar, Dade, Lawrence, Barry, Jasper, Newton, and McDonald counties. This has been confused with the eastern *Sedum Nevii* which is not known in Mo.

Sedum ternatum Michx.

Rocky ledges and glades. Calciphile to circumneutral. Scattered: Marion, Greene, and Barry counties.

SEDMUM TRIPHYLLUM (Haw.) S. F. Gray. See Rh. 11: 46. 1909. Live-ever, Orpine.

Sedum purpureum Tausch (G).

Planted in old gardens and escaped to roadsides and waste ground. Indifferent. Scattered: Clark, Scotland, Marion, St. Louis, Boone, and Jasper counties.

Fam. SAXIFRAGACEAE

Sullivantia renifolia Rosendahl, Univ. Minn. Studies Biol. Sci. 6: 410, pl. 43. 1927.

Sullivantia Sullivantii of auth., not (T. & G.) Britton (G), (B & B).

On moist shaded bluffs of St. Peter sandstone. Oxylophile. East-central Mo., local: Warren and Jefferson counties.

Saxifraga pensylvanica L. var. *Forbesii* (Vasey) Engl. & Irmsch. Pflanzenreich 4, Fam. 117, 1: 66. 1916.

Saxifraga Forbesii Vasey (G).

Micranthes pennsylvanica (L.) Haw., in part (B & B).

Moist shaded sandstone bluffs. Oxylophile. East-central Mo.: Montgomery, Warren, Lincoln, St. Charles, St. Louis, and Jefferson counties.

Saxifrage virginiana Michx. Early Saxifrage.

Micranthes virginica (Michx.) Small (B & B).

Moist ledges along bluffs; on sandstone or granitic rocks. Oxylophile. East-central Mo., and southern Mo., in the eastern Ozark region: St. Louis, Jefferson, Ste. Genevieve, Madison, Iron, Phelps, Texas, and Douglas counties.

Saxifraga texana Buckley.

Micranthes texana (Buckl.) Small.

Rocky prairies and glades. Oxylophile. Southwestern Mo.: Polk, Greene, St. Clair, Cedar, Vernon, Barton, Jasper, and Newton counties.

Heuchera americana L. Alum Root.

Rocky open woods. Oxylophile to circumneutral. Southern and east-central Mo.: Jefferson, Washington, Madison, Iron, Dunklin, Butler, Ozark, Jasper, and Jackson counties.

Heuchera hirsuticaulis (Wheelock) Rydb.

Rocky bluffs and banks. Circumneutral. Southern Mo., mostly in the eastern Ozark region: Jefferson, Washington, Cape Girardeau, Iron, Madison, Reynolds, Carter, Oregon, Shannon, Dent, Pulaski, Camden, and Taney counties.

Heuchera Richardsonii R. Br. var. *Grayana* Rosendahl, Butters & Lakela, Rh. 35: 117. 1933.

Heuchera hispida of auth., not Pursh (G), (B & B).

Open rocky woods, prairies, and along bluffs and embankments. Circumneutral. General. This is the common species in Mo., and it has frequently been confused with *H. hirsuticaulis*.

Heuchera puberula Mack. & Bush.

Heuchera parviflora of auth., not Bartl. (G), (B & B).

Shaded limestone bluffs. Calciphile. Southern Mo.: Ste. Genevieve, Ripley, Carter, Shannon, Oregon, Texas, Howell, Ozark, and Douglas counties.

Heuchera villosa Michx.

Shaded limestone bluffs. Calciphile. Southeastern Mo.: Iron Co.

Heuchera macrorhiza Small.

Shaded limestone bluffs. Calciphile. Southeastern Mo.: Iron Co.

Mitella diphylla L. Miterwort.

Moist shaded bluffs; on limestone or sandstone. Calciphile to circumneutral. East-central and southeastern Mo.: Montgomery, Warren, St. Charles, Jefferson, Perry, Ripley, Oregon, Howell, and Texas counties.

Parnassia grandifolia DC. Grass of Parnassus.

Moist limestone bluffs and moist rocky or boggy ground along streams. Circumneutral to calciphile. Southern Mo., rare and scattered: Washington, Shannon, Texas, Douglas, and Ozark counties.

Hydrangea arborescens L. Wild Hydrangea.

Shaded rocky banks and bluffs. Circumneutral; often on limestone but also found on siliceous and granitic rocks. Central and southern Mo. Common in the Ozark region.

Hydrangea arborescens f. *grandiflora* Rehder.

Rarely found with the typical form. Stoddard Co.

Hydrangea arborescens var. *Deamii* St. John, Rh. 23: 208. 1922.

Similar situations to the typical form. Scattered in southern Mo.: Bollinger, Shannon, Phelps, Pulaski, Dallas, Hickory, and Newton counties.

Hydrangea arborescens var. *Deamii* f. *acarpa* St. John, Rh. 23: 208. 1902.

Hydrangea cinerea f. *sterilis* Rehder.

Rarely found with the typical form. Shannon Co.

Hydrangea arborescens var. *oblonga* T. & G.

In similar situations to the typical form. East-central and southern Mo.: St. Louis, Cape Girardeau, Reynolds, Shannon, Ozark, and Barry counties.

Hydrangea arborescens var. *oblonga* f. *sterilis* St. John, Rh. 23: 208. 1922.

Rarely found with the typical form. Ozark Co.

Itea virginica L. Virginia Willow.

Swamps, borders of bayous, and low wet woods. Circumneutral. Southeast-

ern Mo., in the lowlands: Cape Girardeau, Bollinger, New Madrid, Dunklin, and Butler counties.

Ribes cynosbati L. Prickly Gooseberry.

Rocky woods and bluffs. Circumneutral. Eastern and southern Mo.: Clark, Lewis, Gasconade, St. Louis, Jefferson, Perry, Cape Girardeau, Scott, Stoddard, Oregon, Shannon, Dent, Texas, Howell, Polk, and Stone counties.

Ribes missouriense Nutt. Wild Gooseberry.

Ribes gracile Michx. (G).

Grossularia missouriensis (Nutt.) Coville & Britton (B & B).

Rocky open woods and bluffs. Circumneutral to calciphile. General.

Ribes odoratum Wendl. See Rh. 11: 47. 1909. Flowering Currant.

Ribes aureum of auth., not Pursh (G).

Along high rocky bluffs of White River and its tributaries. Calciphile. Southwestern Mo.: Taney, Stone, and Barry counties.

Fam. HAMAMELIDACEAE

Hamamelis virginiana L. Witch-hazel.

Rocky woods and low ground along streams. Oxylophile to circumneutral. Southeastern Mo., in the Iron Mountain sub-region: Iron, Shannon, and Reynolds counties.

Hamamelis vernalis Sarg. Trees & Shrubs 2: 137, pl. 156. 1911. Ozark Witch-hazel.

Margins and gravel bars of rocky streams. Circumneutral. Southern Mo.: Franklin, Washington, St. Francois, Ste. Genevieve, Bollinger, Stoddard, Madison, Iron, Reynolds, Wayne, Carter, Ripley, Oregon, Shannon, Texas, Phelps, Pulaski, Dallas, Douglas, Ozark, Christian, Taney, Stone, and Barry counties.

Hamamelis vernalis f. *tomentella* Rehder, Jour. Arnold Arb. 1: 256. 1920.

Sometimes found with the typical form. Taney and Barry counties.

Hamamelis vernalis f. *carnea* Rehder, Jour. Arnold Arb. 9: 30. 1928.

Occasionally found with the typical form. Iron and Madison counties.

Liquidambar styraciflua L. Sweet Gum.

Low woods and along streams. Oxylophile to circumneutral. Southeastern Mo., in the lowlands: Perry, Cape Girardeau, Bollinger, Madison, Scott, Mississippi, New Madrid, Pemiscot, Dunklin, Stoddard, Butler, Wayne, Ripley, and Oregon counties.

Fam. PLATANACEAE

Platanus occidentalis L. Sycamore.

Woods along streams. Circumneutral. General and probably in every county.

Platanus occidentalis var. *glabrata* (Fernald) Sarg. Bot. Gaz. 67: 230. 1919.

Occasionally found with the typical form. Madison and Jasper counties.

Platanus occidentalis f. *attenuata* Sarg. Bot. Gaz. 67: 229. 1919.

Occasionally found with the typical form. Shannon and Jasper counties.

Fam. ROSACEAE

Physocarpus opulifolius (L.) Maxim var. *intermedius* (Rydb) Robinson. Nine-bark.

Thickets, and rocky banks and bluffs of streams. Circumneutral. Eastern, central, and southern Mo.; commonest in the Ozark region.

Spiraea alba Du Roi. Meadow-sweet.

Spiraea salicifolia of auth. in part, not L. (G.).

Moist meadows and open ground along streams. Oxyophile to circumneutral. Rare. Northern Mo.: Grundy Co., and also reported from Harrison Co.

Spiraea tomentosa L. var. *rosea* (Raf.) Fernald, Rh. 14: 190. 1912. Hardhack. Rocky and sandy open ground. Oxyophile. Southeastern Mo., local: Dunklin Co.

Aruncus sylvester Kostel. Goat's Beard.

Rocky or moist woods, and along base of bluffs. Circumneutral. Eastern, central, and southern Mo., south and east of a line drawn from Lewis, Montgomery, Saline, Benton, and Greene counties to McDonald Co.

Gillenia stipulata (Muhl.) Trelease. American Ipecac.

Rocky woods. Circumneutral to oxyophile. Eastern, central, and southern Mo.; commonest in the Ozark region.

PYRUS COMMUNIS L. Pear.

Planted and sometimes escaped in thickets. Scattered: St. Louis, Boone, and Jasper counties.

MALUS PUMILA Mill. Apple.

Pyrus Malus L. (G.).

Malus Malus (L.) Britton (B & B).

Cultivated and escaped, in thickets, pastures, and waste ground. Scattered: St. Louis, Boone, Jackson, and Jasper counties.

Malus ioensis (Wood) Bailey. Wild Crab-apple.

Pyrus ioensis (Wood) Britton (G.).

Thickets along small streams, pastures, and borders of woods. Circumneutral to caleiphile. General, but commonest in northern Mo.

Malus ioensis var. *Palmeri* Rehder in Sarg. Trees & Shrubs 2: 142. 1911.

Thickets and woods along small streams. Circumneutral. General, but commonest in the Ozark region.

Malus ioensis var. *Bushii* Rehder in Sarg. Trees & Shrubs 2: 232. 1913.

Open woods. Circumneutral. Southeastern Mo.: Shannon, Wayne, and Dunklin counties.

Malus ioensis var. *spinosa* Rehder in Sarg. Trees & Shrubs 2: 231. 1913.

Open woods and thickets. Circumneutral. Southeastern Mo.: Dunklin and Oregon counties.

Malus lancifolia Rehder in Sarg. Trees & Shrubs 2: 141. 1911.

Open woods and thickets. Circumneutral. Central and southern Mo.: St. Francois, Iron, Bollinger, Wayne, Boone, and Jackson counties.

Malus coronaria (L.) Mill. American Crab.

Pyrus coronaria L. (G).

Thickets along streams. Circumneutral to calciphile. Scattered: Madison, Butler, and Jackson counties.

Malus bracteata Rehder in Sarg. *Trees & Shrubs* 2: 230. 1913.

Open woods and thickets. Circumneutral. Southeastern Mo.: Dunklin Co.

x Malus Soulardii (Bailey) Britton.

x Pyrus Soulardii Bailey (G).

A hybrid between *Malus pumila* and *M. ioensis*. Occasionally found in the range of the latter.

Amelanchier canadensis (L.) Medic. See Rh. 14: 150. 1912. Juneberry, Shad Bush, Service Berry.

Amelanchier canadensis var. *Botryapium* (L.f.) T. & G. (G.).

Rocky woods and along bluffs. Oxylophile to circumneutral. General, but apparently absent from some of the northern counties.

Amelanchier humilis Wiegand, Rh. 14: 126, 141. 1912.

Open ground and prairie banks along railroad. Western Mo.: Pettis and Lawrence counties. Probably introduced.

Crataegus crus-galli L. Cockspur Thorn.

Crataegus albanthera Sarg.

Crataegus calophylla Sarg.

Crataegus candens Sarg.

Crataegus efferta Sarg.

Crataegus effulgens Sarg.

Crataegus ferox Sarg.

Crataegus hamata Sarg.

Crataegus Parkae Sarg.

Crataegus polyclada Sarg.

Crataegus severa Sarg.

Crataegus strongylophylla Sarg.

Crataegus tardiflora Sarg.

Thickets, pastures, and borders of woods, rocky or alluvial ground. Circumneutral to calciphile. General and common.

Crataegus crus-galli f. *truncata* (Sarg.) Palmer, comb. nov.

Crataegus truncata Sarg.

Occasionally found with the typical form. Southern Mo.: Taney Co.

Crataegus crus-galli var. *exigua* (Sarg.) Eggleston.

Crataegus exigua Sarg.

Crataegus rufa Sarg.

Occasionally found with the typical form. Shannon Co.

Crataegus crus-galli var. *macra* (Beadle) Palmer, comb. nov.

Crataegus macro Beadle.

Crataegus consueta Sarg.

Crataegus monosperma Sarg.

Crataegus permera Sarg.

Found in similar situations to the typical form. Calciphile to circumneutral.

Central and southern Mo.: Boone, Butler, Shannon, Ozark, Taney, and Greene counties.

Crataegus crus-galli var. *barrettiana* (Sarg.) Palmer, comb. nov.

Crataegus barrettiana Sarg.

Found in similar situations to the typical form. Eastern Mo.: St. Louis Co.

Crataegus crus-galli var. *leptophylla* (Sarg.) Palmer, comb. nov.

Crataegus leptophylla Sarg.

Found in similar situations to the typical form. Scattered: Osage, Madison, and Wayne counties.

Crataegus crus-galli var. *pachyphylla* (Sarg.) Palmer, comb. nov.

Crataegus pachyphylla Sarg.

Thickets and open woods along streams. Calciphile to circumneutral. Scattered: Osage and St. Francois counties.

Crataegus crus-galli var. *bellica* (Sarg.) Palmer, comb. nov.

Crataegus bellica Sarg.

Thickets and borders of woods; gravelly hills and alluvial ground. Circumneutral to calciphile. Southeastern Mo.: Butler Co.

Crataegus tantula Sarg.

Crataegus lawrencensis Sarg.

Thickets along streams. Circumneutral to calciphile. Southwestern Mo.: Lawrence, Jasper, and Newton counties.

Crataegus rotunda Sarg.

Prairies and thickets along small streams. Circumneutral to calciphile. Southwestern Mo.: Jasper, Newton, and Barry counties.

Crataegus discolor Sarg.

Crataegus jasprensis Sarg.

Crataegus parciflora Sarg.

Crataegus rubrisepala Sarg.

Crataegus rubrifolia Sarg.

Crataegus tenuisepala Sarg.

Thickets, pastures, and borders of woods, along small streams. Calciphile to circumneutral. Southern Mo.: Butler, Carter, Texas, Douglas, Dallas, Barry, and Jasper counties.

Crataegus acutifolia Sarg.

Crataegus erecta Sarg.

Crataegus ludoviciana Sarg.

Open woods and borders of woods along streams. Circumneutral to calciphile. Northern and east-central Mo.: Clark, Daviess, Pike, St. Louis, and Osage counties.

Crataegus Palmeri Sarg.

Thickets, pastures, and open woods; on limestone hills or along small streams. Calciphile to circumneutral. Southwestern Mo.: Vernon, Lawrence, Jasper, Newton, and McDonald counties.

Crataegus intermixta Sarg.

Thickets, pastures, and limestone hills. Calciphile to circumneutral. Eastern Mo., north of the Missouri River: Marion, Ralls, and Pike counties.

Crataegus regalis Beadle.

Rocky open woods and thickets. Circumnneutral to calciphile. Southern Mo.: Oregon Co.

Crataegus regalis var. *paradoxa* (Sarg.) Palmer, comb. nov.

Crataegus paradoxa Sarg.

Prairies and thickets along small streams. Circumnneutral to calciphile. Southwestern Mo.: Jasper and Newton counties.

Crataegus pyracanthoides Beadle var. *arborea* (Beadle) Palmer, comb. nov.

Crataegus arborea Beadle.

Crataegus tenuispina Sarg.

Open woods and banks of small streams. Circumneutral to calciphile. Southeastern Mo.: Dunklin, Wayne, Carter, and Shannon counties.

Crataegus hannibalensis Palmer, Jour. Arnold Arb. 16: 353. 1935.

Thickets, borders of woods, and along bluffs. Calciphile to circumneutral. Northern and eastern Mo.: Schuyler, Clark, Marion, Ralls, Pike, Monroe, St. Francois, Mercer, Harrison, and Clinton counties.

Crataegus Danielsi Palmer, Jour. Arnold Arb. 16: 355. 1935.

Thickets, limestone hills, and bluffs. Calciphile to circumneutral. Central Mo.: Boone Co.

Crataegus Danielsi f. *glabra* Palmer, Jour. Arnold Arb. 16: 357. 1935.

Rarely found with the typical form. Central Mo.: Boone Co.

Crataegus vallicola Sarg.

Crataegus phaneroneura Sarg.

Thickets and borders of woods, limestone hills, and along bluffs. Calciphile to circumneutral. Eastern and middle Mo.: Macon, Pike, Lincoln, St. Louis, and Dent counties.

Crataegus Engelmannii Sarg.

Crataegus barbata Sarg.

Crataegus hirtella Sarg.

Crataegus munita Sarg.

Crataegus pilifera Sarg.

Crataegus setosa Sarg.

Crataegus villosa Sarg.

Thickets and open woods, glades, and limestone hills. Calciphile to circumneutral. Central and southern Mo.: St. Louis, Franklin, St. Francois, Ste. Genevieve, Iron, Wayne, Butler, Dunklin, Carter, Texas, Dent, Phelps, Pulaski, Cole, Dallas, Polk, Webster, Christian, Taney, Stone, Barry, Jasper, Newton, and McDonald counties.

Crataegus Engelmannii f. *nuda* Palmer, f. nov.

Crataegus infesta Sarg.

Crataegus tenuis Sarg.

Occasionally found with the typical form. Scattered: St. Louis, Franklin, and Jasper counties.

A type differt foliis inflorescentiis ramulisque novellis glabris.

Crataegus fecunda Sarg.

Thickets and open ground along streams. Calciphile to circumneutral. Cen-

tral and southeastern Mo.: Boone, St. Louis, Ste. Genevieve, Cape Girardeau, and Wayne counties.

Crataegus collina Chapm.

Crataegus angustata Sarg.

Crataegus macropoda Sarg.

Crataegus sunda Sarg.

Crataegus sordida var. *villosa* Sarg.

Crataegus vicina Sarg.

Thickets and open woods; on limestone hills or along small streams. Calciphile to circumneutral. Central and southern Mo.: Boone, St. Louis, Franklin, Washington, St. Francois, Ste. Genevieve, Cape Girardeau, Iron, Wayne, Butler, Ripley, Carter, Oregon, Shannon, Texas, Phelps, Maries, Osage, Benton, Morgan, Greene, Taney, Stone, Barry, Jasper, Newton, and McDonald counties.

Crataegus collina var. *succincta* (Sarg.) Palmer, comb. nov.

Crataegus succincta Sarg.

Thickets, limestone hills, and glades. Calciphile to circumneutral. Eastern Mo., south of the Missouri River: St. Louis, Franklin, St. Francois, and Wayne counties.

Crataegus collina var. *secta* (Sarg.) Palmer, comb. nov.

Crataegus secta Sarg.

Thickets, limestone hills, and along small streams. Central and southern Mo., scattered: Miller, Greene, and Jasper counties.

Crataegus collina var. *sordida* (Sarg.) Palmer, comb. nov.

Crataegus sordida Sarg.

Thickets, limestone hills. Calciphile to circumneutral. Southern Mo.: Ripley, Carter, Shannon, and Greene counties.

Crataegus verruculosa Sarg.

Thickets and borders of woods. Calciphile to circumneutral. Central and southern Mo., scattered: Boone, Cape Girardeau, Bollinger, Shannon, and Greene counties.

Crataegus hirtiflora Sarg.

Thickets and borders of woods. Calciphile to circumneutral. Southern Mo., local: Taney and Stone counties.

Crataegus latebrosa Sarg.

Thickets and open woods along rocky streams. Calciphile to circumneutral. Southwestern Mo., local: McDonald county.

Crataegus Lettermanii Sarg.

Open woods and thickets along streams. Circumneutral to calciphile. Central and southern Mo., scattered: St. Louis, Ste. Genevieve, and Jasper counties. Probably a hybrid between *Crataegus collina* and *C. mollis*.

Crataegus viridis L. Green Haw.

Crataegus arborescens Ell.

Crataegus Davisii Sarg.

Crataegus furcata Sarg.

Crataegus larga Sarg.

Crataegus Pechiana Sarg.

Low wet woods, and limestone hills and bluffs with seepage water. Calciphile to circumneutral. Eastern, central, and southern Mo.: Marion, Ralls, Pike, St. Louis, Gasconade, Osage, Cole, Mississippi, Pemiscot, Dunklin, Stoddard, Butler, Ripley, Howell, Jasper, and Newton counties.

Crataegus viridis var. *ovata* (Sarg.) Palmer, comb. nov.

Crataegus ovata Sarg.

Crataegus nitens Sarg.

Occasionally found with the typical form. Marion, Ralls, St. Louis, Stoddard, and Jasper counties.

Crataegus viridis var. *lanceolata* (Sarg.) Palmer, comb. nov.

Crataegus lanceolata Sarg.

Occasionally found with the typical form. Marion, Ralls, St. Louis, Dunklin, and Jasper counties.

Crataegus viridis var. *lutensis* (Sarg.) Palmer, comb. nov.

Crataegus lutensis Sarg.

Low woods and rocky glades. Circumneutral. Southwestern Mo.: Bates, Vernon, St. Clair, Jasper, and Newton counties.

Crataegus viridis var. *atrorubens* (Ashe) Palmer, comb. nov.

Crataegus atrorubens Ashe.

Crataegus Dawsoniana Sarg.

Low wet or alluvial woods. East-central Mo.: St. Louis Co.

Crataegus nitida (Engelm.) Sarg.

Hedges and borders of woods, limestone hills and bluffs along the Mississippi River. Calciphile. Northeastern Mo.: Marion and Ralls counties.

Crataegus padifolia Sarg.

Glades and rocky hillsides. Circumneutral to calciphile. Southwestern Mo.: Ozark, Taney, and Stone counties.

Crataegus padifolia var. *incarnata* Sarg.

Rocky open woods. Circumneutral to calciphile. Southwestern Mo.: Stone Co.

Crataegus neobushii Sarg.

Crataegus leioclada Sarg.

Glades, thickets, and rocky open woods. Circumneutral to calciphile. Southern Mo.: Iron, Ripley, Shannon, Dallas, Taney, and Stone counties.

Crataegus biltmoreana Beadle.

Crataegus villicarpa Sarg.

Glades and rocky hillsides. Circumneutral to calciphile. Southern Mo.: Shannon, Taney, Stone, and Barry counties.

Crataegus Margaretta Ashe.

Hedges, borders of woods, and rocky open ground. Circumneutral to calciphile. Eastern and southern Mo.: Putnam, Schuyler, Adair, Scotland, Clark, Lewis, Knox, Shelby, Marion, Ralls, Pike, Lincoln, St. Louis, St. Francois, Madison, Dallas, Polk, Cedar, Greene, and Christian counties.

Crataegus sicca Sarg.

Crataegus glabrifolia Sarg.

Thickets and rocky open woods. Circumneutral to calciphile. Eastern and

middle Mo., south of the Missouri River: Franklin, Washington, Bollinger, Wayne, Carter, Cole, and Laclede counties.

Crataegus pruinosa (Wendl.) K. Koch.

Crataegus conjuncta Sarg.

Crataegus depressa Ashe, not Presl, in part.

Crataegus patrum Sarg.

Open woods and thickets, limestone hills and along small streams. Circumneutral. General, but commonest in northern and eastern Mo.

Crataegus pruinosa f. *angulata* (Sarg.) Palmer, comb. nov.

Crataegus arcana of Sarg., in part, not Beadle.

Crataegus angulata Sarg.

Occasionally found with the typical form. Carter Co.

Crataegus pruinosa var. *brachypoda* (Sarg.) Palmer, comb. nov.

Crataegus brachypoda Sarg.

Thickets and open woods. Circumneutral to calciphile. Occasionally found with the typical form. Southeastern Mo.: Carter and Ripley counties.

Crataegus rugosa Ashe.

Crataegus onusta Ashe.

Thickets, pastures, and borders of woods. Circumneutral to calciphile. Northern Mo.: Shelby, Mercer, and Harrison counties.

Crataegus disjuncta Sarg.

Crataegus tumida Sarg.

Thickets and open woods. Circumneutral to calciphile. East-central and southern Mo.: Franklin, Stoddard, Dent, Shannon, and Jasper counties.

Crataegus disjuncta var. *magnifolia* (Sarg.) Palmer, comb. nov.

Crataegus magnifolia Sarg.

Thickets and open woods, limestone hills and along small streams. Circumneutral to calciphile. Southwestern Mo.: Cedar, Dade, Lawrence, Barton, and Jasper counties.

Crataegus Mackenzii Sarg.

Crataegus depressa Ashe, not Presl, in part.

Crataegus rubicundula Sarg.

Thickets, pastures and glades. Circumneutral to calciphile. General: Schuyler, Adair, St. Louis, Franklin, Washington, Iron, Cape Girardeau, Bollinger, Butler, Miller, Jackson, Benton, Greene, and Stone counties.

Crataegus Mackenzii var. *bracteata* (Sarg.) Palmer, comb. nov.

Crataegus bracteata Sarg.

Crataegus aperta Sarg.

Crataegus calliantha Sarg.

Crataegus rigida Sarg.

Crataegus seclusa Sarg.

Crataegus seducta Sarg.

Rocky open woods, thickets, and pastures. Circumneutral to calciphile. Central and southern Mo.: Boone, Franklin, St. Francois, Madison, Bollinger, Carter, Ripley, Phelps, Pulaski, Miller, Camden, Laclede, Dallas, Ozark, Taney, Stone, Barry, Johnson, Jasper, Newton, and McDonald counties.

Crataegus Gottingeri Ashe.

Rocky open woods and thickets. Circumneutral. Southeastern Mo.: Madison, Iron, and Wayne counties.

Crataegus platycarpa Sarg.

Open woods and thickets. Circumneutral to calciphile. Eastern Mo.: Schuyler, Lincoln, Iron, and Wayne counties.

Crataegus aspera Sarg.

Rocky open woods, thickets, and pastures. Circumneutral to calciphile. Southern Mo.: Ripley, Taney, Stone, Barry, and Jasper counties.

Crataegus locuples Sarg.

Open woods and thickets. Circumneutral to calciphile. East-central and Southeastern Mo.: St. Louis, Wayne, and Carter counties. Probably a hybrid between *Crataegus mollis* and *C. pruinosa* or a related species.

Crataegus mollis (T. & G.) Scheele. Summer Haw, Turkey Apple.

Crataegus macrophylla Sarg.

Crataegus lanigera Sarg.

Crataegus lasiantha Sarg.

Crataegus umbroa Sarg.

Crataegus valens Ashe.

Crataegus verna Ashe.

Open woods and thickets along streams. Circumneutral to calciphile. General, but commonest in northern and central Mo., and apparently absent from some of the Ozark counties.

Crataegus mollis f. *dumetosa* (Sarg.) Palmer, comb. nov.

Crataegus dumetosa Sarg.

Occasionally found with the typical form. Jasper and Taney counties.

Crataegus noelensis Sarg.

Crataegus transmississippiensis Sarg.

Rocky open woods and thickets along streams. Circumneutral to calciphile. Western Mo., south of the Missouri River: Webster, Benton, Dallas, Greene, Barry, Stone, and McDonald counties.

Crataegus dispessa Ashe.

Crataegus pyriformis Britton.

Crataegus Treleasei Sarg.

Rocky open woods along streams. Circumneutral to calciphile. Southern Mo.: St. Francois, Shannon, Howell, and Dallas counties.

Crataegus lanuginosa Sarg.

Crataegus dasypylla Sarg.

Open woods, thickets, and pastures; limestone hills and along small streams. Circumneutral to calciphile. Southwestern Mo.: Jasper, Newton, and Barry counties.

Crataegus Kelloggii Sarg.

Thickets along small streams. Circumneutral to calciphile. Scattered: Putnam, Lincoln, St. Louis, and Greene counties. Probably a hybrid between *Crataegus Margareta* and *C. mollis*.

Crataegus declivitatis Sarg.

Rocky open woods and bluffs. Circumneutral to calciphile. East-central Mo., local: St. Louis and St. Francois counties. Probably a hybrid between *Crataegus mollis* and *C. pruinosa*.

Crataegus coccinoides Ashe.

Crataegus callicarpa Sarg.

Crataegus speciosa Sarg.

Thickets and open woods; limestone hills. Circumneutral to calciphile. Southern Mo.: St. Louis, Franklin, St. Clair, Cedar, Dade, Jasper, Newton, and Barry counties.

Crataegus spathulata Michx.

Crataegus apiifolia var. *flavanthera* Sarg.

Crataegus spathulata var. *flavanthera* Sarg. ex Palmer.

Open woods and thickets. Circumneutral. Southwestern Mo.: Taney and Jasper counties.

Crataegus Marshallii Eggleston. Parsley Haw.

Crataegus apiifolia (Marsh.) Michx., not Medic.

Low swampy woods. Circumneutral. Southeastern Mo.: Dunklin and Butler counties.

Crataegus Phaeopyrum (L.f.) Medic. Washington Thorn.

Crataegus cordata Ait.

Thickets and borders of woods. Circumneutral to calciphile. Central and southern Mo.: Boone, Maries, Washington, Crawford, St. Francois, Wayne, Carter, Ripley, Shannon, Texas, Howell, Greene, Stone, and Jasper counties.

Crataegus uniflora Muench.

Crataegus trianthophora Sarg.

Crataegus tomentosa Eggleston, not L. (G.).

Rocky open woods and glades. Circumneutral to oxylophilic. Southern Mo.: Ripley, Shannon, Wayne, Carter, Texas, Douglas, and Ozark counties.

Crataegus calpodendron (Ehrh.) Medic.

Crataegus tomentosa of auth., not L. (?).

Crataegus insperata Sarg.

Crataegus obscura Sarg.

Thickets, open woods, and rocky ground along streams and bluffs. Circumneutral to calciphile. General.

Crataegus calpodendron var. *obesa* (Ashe) Palmer, comb. nov.

Crataegus obesa Ashe.

Crataegus globosa Sarg. (B & B).

Crataegus mollicula Sarg.

Rocky woods, thickets, and banks of streams. Circumneutral to calciphile. Central and southern Mo.: St. Louis, Iron, Madison, Wayne, Carter, Ripley, Shannon, Oregon, Jackson, Benton, Hickory, Polk, Greene, Christian, Ozark, Taney, Stone, Barry, Jasper, and McDonald counties.

Crataegus calpodendron var. *hispida* (Sarg.) Palmer, comb. nov.

Crataegus hispida Sarg.

Crataegus spinulosa Sarg.

Thickets, open woods, and banks or bluffs of streams. Circumneutral to calciphile. Southern Mo., scattered: St. Francois, Polk, Stone, and Jasper counties.

Crataegus succulenta Schrad.

Crataegus neofluvialis Ashe (B & B).

Crataegus macracantha var. *neofluvialis* (Ashe) Eggleston (G), in part.

Crataegus ensifera Sarg.

Thickets and borders of woods, along streams. Circumneutral to calciphile. Scattered: Harrison, Montgomery, Benton, and Christian counties.

Crataegus succulenta var. *pertomentosa* (Ashe) Palmer, comb. nov.

Crataegus pertomentosa Ashe (G), B & B.

Crataegus campestris Britton.

Rocky open woods, glades, and rocky ground along streams. Calciphile to circumneutral. Scattered, mostly in northern and central Mo.: Mercer, Macon, Clark, Marion, Ralls, Wayne, and Jackson counties.

Crataegus nuda Sarg.

Glades and rocky ground along streams. Circumneutral to calciphile. Southwestern Mo., local: Taney Co. Perhaps a hybrid between *Crataegus crus-galli* and *C. succulenta*.

Crataegus simulata Sarg.

Open woods and thickets along streams. Circumneutral to calciphile. Southwestern Mo., local: Jasper Co. Probably a hybrid between *Crataegus calpodendron* var. *obesa* and *C. Palmeri*.

Crataegus inaequata Sarg.

Crataegus pudens Sarg.

Crataegus swanensis Sarg.

Rocky open woods, glades, and banks of streams. Circumneutral to calciphile. Southern Mo., scattered: Shannon, Carter, Dallas, and Taney counties.

Crataegus Villoiae Britton.

Crataegus missouriensis Ashe.

Bluffs and rocky banks of streams. Circumneutral. Southeastern Mo.: Shannon and Ripley counties.

Crataegus collina × *viridis*

Thickets, low hills bordering lowlands. Local: Cape Girardeau Co.

Crataegus Engelmannii × *uniflora*.

Rocky glades. Local: Ozark Co.

Waldsteinia fragarioides (Michx.) Trattinick.

Shaded cherty or sandstone upland slopes. Oxylophile. Southern Mo.: Texas and Douglas counties.

Fragaria virginiana Duchesne. Wild Strawberry.

Prairies and open cleared lands. Circumneutral. General but scattered.

Fragaria virginiana var. *illinoensis* (Prince) Gray.

Fragaria Grayana Vilmorin (S).

Similar situations to the preceding. General and more common.

Fragaria vesca L. var. *americana* Porter.

Prairies and borders of woods and thickets. Circumneutral. Scattered: Jasper Co.

FRAGARIA CHILOENSIS Duchesne var. *ANANASSA* (Duchesne) Hort. ex Bailey. Gar-den Strawberry.

Fragaria grandiflora Ehrh.

Cultivated and occasionally escaped. Scattered: Andrew Co.

DUCHESNEA INDICA (Andr.) Focke. Indian Strawberry.

Prairies, open woods, and waste ground. Circumneutral. Scattered and un-common: Dunklin and Jackson counties.

Potentilla arguta Pursh.

Rocky woods and prairies. Oxylophile to circumneutral. General but scattered: Schuyler, Linn, Lewis, St. Louis, Carter, Worth, Clinton, Jackson, Greene, and Barry counties.

Potentilla norvegica L. var. *hirsuta* (Michx.) Lehm. See Rh. 23: 213-214. 1926.

Potentilla monspeliensis L. (G), (B & B).

Prairies, meadows, and waste ground. Circumneutral. General.

Potentilla rivalis Nutt.

Prairies and open banks. Circumneutral. St. Louis, Jefferson, and Jackson counties.

Potentilla rivalis var. *millegrana* (Engelm.) Wats.

Prairies, meadows, and waste ground. Circumneutral. Central Mo., and per-haps more general: St. Louis, Jefferson, Boone, and Jackson counties.

Potentilla rivalis var. *pentandra* (Engelm.) Wats.

Prairies and waste ground. Circumneutral. Local: Jackson Co.

Potentilla paradoxa Nutt.

Rocky open woods, upland prairies, and banks of streams. Circumneutral. Central and southern Mo.: St. Louis, Perry, Boone, Saline, Carroll, Clay, Jack-son, and Holt counties.

Potentilla Nicolletii (Wats.) Sheldon.

Sandy bottoms along Missouri and Mississippi Rivers. Oxylophile. Se-tered: Perry, Carroll, and Jackson counties.

POTENTILLA RECTA L.

Fields, meadows, and waste ground. Indifferent. Introduced and becoming more common. General but scattered: St. Louis, Jefferson, Franklin, Wash-ington, St. Francois, Madison, Iron, Crawford, Phelps, Boone, Saline, Jackson, and Jasper counties.

Potentilla canadensis L. var. *villosum* Fernald, Rh. 33: 187. 1931.

Potentilla caroliniana of Rydb., not Poir. (G), (B & B).

Dry open woods, prairies, and open banks. Oxylophile. Southern Mo., east-ern Ozark region: Dent, Reynolds, Shannon, Texas, and Howell counties.

Potentilla simplex Michx. See Rh. 33: 188. 1931. Cinquefoil.

Potentilla canadensis of auth., not L. (G), (B & B).

Rocky open woods, prairies, and waste ground. Oxylophile to circumneutral. General and common.

Potentilla simplex var. *calvescens* Fernald, Rh. 33: 189. 1931.

Potentilla canadensis var. *simplex* of auth., not (Michx.) T. & G. (G).

Potentilla simplex of auth., not Michx. (B & B).

Potentilla simplex var. *argyrisma* Fernald, Rh. 33: 191. 1931.
Rocky open woods and prairies. Circumneutral: St. Louis, Boone, Jackson, Douglas, Greene, and Jasper counties.

Potentilla simplex var. *argyrisma* Fernald, Rh. 33: 191. 1931.
Prairies and dry open ground. Circumneutral. Scattered in southwestern Mo.: Barton and Pettis counties.

Geum canadense Jacq.
Rich woods. Circumneutral. Scattered: Lewis, Monroe, Dallas, Hickory, and Miller counties.

Geum canadense var. *camporum* (Rydb.) Fernald & Weatherby, Rh. 24: 49. 1922.
Red Root.

Geum canadense of auth. in part (G), (B & B).

Woods and meadows. Circumneutral. General and common.

Geum laciniatum Murr. var. *trichocarpum* Fernald, Rh. 37: 293. 1935. Rough Avens.

Geum virginianum of auth. in part, not L. (G).

Moist woods. Circumneutral. Northern and central Mo.: Scotland, Adair, Marion, Ralls, Monroe, Audrain, and Jackson counties.

Geum vernum (Raf.) T. & G. Early Water Avens.

Moist woods, thickets, and open boggy ground. Circumneutral. General.

Rubus idaeus L. var. *strigosus* (Michx.) Maxim. Red Raspberry.

Rubus idaeus var. *aculeatissimus* (C. A. Mey.) Regel & Tiling (G).

Loess hills in northwestern Mo., and also in Jackson Co., where it is probably introduced: Atchison, Holt, and Jackson counties.

Rubus occidentalis L. Black Raspberry.

Thickets and open woods. Circumneutral. General and probably in every county.

RUBUS PROCRUS P. J. Muell.

Cultivated and occasionally escaped. Waste ground. Scattered: Jasper Co.

Rubus allegheniensis Porter. High-bush Blackberry.

Rocky open woods, thickets, and bluffs. Circumneutral. General but scattered.

Rubus alumnus Bailey, Gent. Herb. 1: 191, fig. 88. 1923.

Thickets, and banks and bluffs of streams. Circumneutral to oxylophilic. Eastern, central, and southern Mo.: Marion, St. Francois, Iron, Madison, Bolinger, Cape Girardeau, Scott, Mississippi, Butler, Wayne, Carter, Shannon, Phelps, Morgan, Jackson, Stone, Jasper, and Newton counties.

Rubus laudatus Berger.

Rocky thickets and borders of woods. Circumneutral. Central and southern Mo., scattered: Boone, Wayne, Saline, Jackson, Barry, and McDonald counties.

Rubus Deamii Bailey, Gent. Herb. 2: 463, fig. 203. 1932.

Thickets and old fields. Circumneutral. Southern Mo.: Texas Co.

Rubus stryphnoides Rydb. High-bush Blackberry.

Rubus Andrewsianus Blanchard (G).

Rubus argutus of auth. not Link. (B & B).

Woods, thickets, fields, and fence rows. Circumneutral. General, and probably in every county.

Rubus Bushii Bailey, Gent. Herb. 2: 403. 1932.

High rocky prairies, thickets, and open ground. Circumneutral to oxylophile. Southwestern Mo.: Barton and Jasper counties.

Rubus frondosus Bigel.

Thickets and woods along streams. Circumneutral. General but not common: Clark, Marion, Macon, Iron, Phelps, Boone, Cooper, Morgan, Jasper, and Newton counties.

Rubus abactus Bailey, Gent. Herb. 2: 452, figs. 196, 197, 198. 1932.

Thickets, pastures, and waste ground. Circumneutral. Scattered: Boone, Phelps, and Clay counties.

Rubus heterophyllus Willd.

Rubus recurvans Blanchard (G).

Dry open ground and borders of woods. Circumneutral. Northwestern Mo.: Nodaway and Jackson counties.

RUBUS LACINIATUS Willd.

Cultivated ground. Introduced in Barry Co.

Rubus missouricus Bailey, Gent. Herb. 2:459, fig. 200. 1932.

Prairies and thickets. Circumneutral. Western Mo.: Jackson Co.

Rubus trivialis Michx.

Rubus rubrisetus Rydb. (G), (B & B), in part.

Rubus continentalis Bailey.

Moist thickets and open ground. Circumneutral. Central and southern Mo.: St. Louis, Jefferson, Perry, Cape Girardeau, Bollinger, Madison, Iron, Mississippi, Pemiscot, Butler, Ripley, Carter, Shannon, Phelps, Jackson, Jasper, and McDonald counties.

Rubus nefrens Bailey, Gent. Herb. 1: 239, fig. 111. 1925.

Prairies, old fields, and open banks. Circumneutral. Central and southern Mo., scattered: Bollinger, Iron, Texas, Jackson, and Jasper counties.

Rubus flagellaris Willd. See Gent. Herb. 2: 317. 1932. Dewberry.

Rubus villosus Ait. (G).

Rubus procumbens Muhl. (B & B).

Open rocky woods, thickets, prairies, and railway embankments. Circumneutral. General and probably in every county.

Rubus flagellaris var. *occidentalis* Bailey, Gent. Herb. 2: 318. 1932.

Thickets and banks along prairie streams. Circumneutral. General but scattered: Clark, Marion, Audrain, Texas, Saline, Jackson, Vernon, and Jasper counties.

Rubus invisa Bailey.

Thickets, prairies, and rocky banks. Circumneutral. Jackson and Morgan counties.

Agrimonia pubescens Wallr. See N. Am. Fl. 22: 393. 1913.

Agrimonia mollis (T. & G.) Britton (G), (B & B).

Rocky open woods and thickets. Circumneutral. General.

Agrimonia microcarpa Wallr.

Low ground along streams. Circumneutral. Eastern Mo., south of the Missouri River, scattered: St. Louis and St. Francois counties.

Agrimonia gryposepala Wallr.

Rocky open woods. Circumneutral. Scattered: Clark, Putnam, Macon, and Douglas counties.

Agrimonia parviflora Ait.

Low open woods, moist thickets, and boggy ground along prairie streams. Circumneutral to oxylophile. General.

Agrimonia rostellata Wallr.

Open woods, rocky slopes, and thickets. Circumneutral. Southern and central Mo., south of a line from St. Louis, Warren, and Boone counties to Jackson Co.

Agrimonia platycarpa Wallr.

Low or rocky woods. Circumneutral. General, but scattered: Marion, Ralls, St. Louis, St. Francois, Shannon, Texas, Greene, Taney, Clay, Jackson, Jasper, and Newton counties.

Rosa setigera Michx. Prairie Rose, Climbing Rose.

Low open woods and moist rocky ground along streams. Circumneutral. Central and southern Mo., scattered: Bollinger, Scott, Dunklin, Butler, Shannon, Pulaski, Saline, Pettis, and Jasper counties.

Rosa setigera f. *inermis* Palmer & Steyermark, f. nov.

Open woods and rocky ground along streams. Occasionally found with the typical form. Circumneutral. Southeastern Mo., scattered: Bollinger and Shannon counties.

A typo recedit ramulis inermibus vel raro paucis tenuibus spinis.

The unarmed glabrous form appears to be comparatively rare and we have seen specimens only from southeastern Missouri. It differs from the type only in the canes and branches being entirely unarmed or rarely with a few small scattered spines.

MISSOURI: Patton, Bollinger Co., April 26, 1931, E. J. Palmer 39093 (Arn. Arb. TYPE); Monteer, Shannon Co., July 30, 1930, B. F. Bush 11907 (Arn. Arb.).

Rosa setigera var. *tomentosa* T. & G.

Rocky open woods, thickets, and prairies. Circumneutral. General and probably in every county.

Rosa setigera var. *serena* Palmer and Steyermark, var. nov.

Open woods, and rocky banks or bluffs of streams. Circumneutral. Southern Mo.: Iron, Reynolds, Carter, Ripley, Shannon, Ozark, Taney, Christian, Stone, and Barry counties.

A typo recedit foliis subter pubescentibus; ramulis inermibus vel raro paucis spinis.

This variety is distinguished from var. *tomentosa* T. & G., which it resembles, in the pubescent under surface of the leaves, and by its smooth spineless canes and branches, although rarely a few small scattered thorns may be found on plants in which nearly all of the branches are entirely unarmed. It appears to be more distinct and constant in its distinguishing characters, as well as more isolated geographically, than the variety based solely on the more or less pubescent character of the leaves. In parts of the Ozark region, in southern Missouri and northern Arkansas, it is the prevailing form of *Rosa setigera*.

MISSOURI: Campbell, Dunklin Co., Oct. 7, 1910, *B. F. Bush* 6385 (Arn. Arb.); Ponder, Ripley Co., July 2, 1933, *Palmer & Steyermark* 41642 (Arn. Arb. TYPE, Mo. Bot. Gard. ISOTYPE); Monteer, Shannon Co., Oct. 6, 1920, *E. J. Palmer* 19346 (Arn. Arb.); Chadwick, Christian Co., Oct. 5-10, 1915, *W. W. Eggleston* 12297 (Arn. Arb.); Galena, Stone Co., Sept. 25, 1923, *E. J. Palmer* 23844, and Sept. 15, 1934, 26135 (Arn. Arb.); Roark, Stone Co., Sept. 28, 1920, *E. J. Palmer* 19213 (Arn. Arb.); Melva, Stone Co., Sept. 17, 1924, *E. J. Palmer* 26194 (Arn. Arb.); Branson, Taney Co., June 8, 1914, *E. J. Palmer* 5397 (Arn. Arb.); Swan, Taney Co., June 9, 1899, *B. F. Bush* 47 (Arn. Arb.); Tecumseh, Ozark Co., Oct. 7, 1927, *E. J. Palmer* 32902 (Arn. Arb.); Gainesville, Ozark Co., June 26, 1928, *E. J. Palmer* 34724 (Arn. Arb.); Isabella, Ozark Co., June 27, 1928, *E. J. Palmer* 3477 (Arn. Arb.); Eagle Rock, Barry Co., July 27, 1926, *E. J. Palmer* 31439 (Arn. Arb.).

ARKANSAS: Cotter, Baxter Co., Sept. 19, 1924, *E. J. Palmer* 26216 (Arn. Arb.); opposite Cotter, Marion Co., June 14, 1914, *E. J. Palmer* 5978 (Arn. Arb.); Eureka Springs, Carroll Co., Sept. 17, 1921, *E. J. Palmer* 20486 (Arn. Arb.); Beaver, Carroll Co., April 30, 1926, *E. J. Palmer* 29843 (Arn. Arb.).

Rosa rudiuscula Greene, Leaflets Bot. Obs. & Crit. 2: 134. 1911.

Prairies and thickets. Circumneutral. Northern and western Mo.: Shelby, Pettis, Benton, Gentry, Nodaway, Jackson, Cass, Bates, Vernon, and Jasper counties.

Rosa suffulta Greene. See N. Am. Fl. 22: 504. 1913; also Bull. Torr. Bot. Club 50: 65. 1923.

Rosa heliophila Greene.

Rosa pratincola Greene, not R. Br. (G).

Prairies and thickets. Circumneutral to calciphile. Northern, central, and western Mo., mostly in the prairie region: Scotland, Knox, Boone, Saline, Pettis, Worth, Nodaway, Atchison, Clinton, Platte, Ray, Jackson, Cass, Bates, and Vernon counties.

Rosa suffulta var. *valida* Erlanson, Rh. 30: 114. 1928.

Occasionally found with the typical form. Northwestern Mo.: Atchison Co.

Rosa blanda Ait. Meadow Rose.

Thickets and open woods. Circumneutral. Northeastern Mo.: Clark and Schuyler counties.

Rosa relicta Erlanson, Rh. 30: 116. 1928.

Prairies and thickets. Circumneutral. Northern and central Mo.: Schuyler, Worth, Dekalb, Cooper, Morgan, Lafayette, Johnson, Henry, and St. Clair counties.

Rosa Aucuparia Rydb. N. Am. Fl. 22: 501. 1918.

Thickets and open woods. Circumneutral. Northern and central Mo., scattered: Clark, Jackson, Cooper, and Morgan counties.

Rosa conjuncta Rydb. N. Am. Fl. 22: 505. 1918.

Open banks, loess hills, and bluffs. Calciphile to circumneutral. Northwestern Mo.: Atchison, Nodaway, Dekalb, and Jackson counties.

Rosa Bushii Rydb. N. Am. Fl. 22: 506. 1918.

Thickets and open banks. Circumneutral. Northern and central Mo.: Putnam, Jackson, and Lafayette counties.

Rosa Palmeri Rydb. N. Am. Fl. 22: 502. 1918.

Prairies and thickets. Circumneutral. Middle and western Mo.: Clinton, Randolph, Jasper, and Stone counties.

Rosa suberrulata Rydb. N. Am. Fl. 22: 500. 1918.

Rocky woods and glades. Circumneutral to oxylophile. Central and southern Mo., mostly in the Ozark region and locally north to St. Louis, Pike, and Jackson counties.

Rosa petiolata Rydb. N. Am. Fl. 22: 501. 1918.

Thickets and prairies. Circumneutral. Northeastern Mo.: Clark Co.

Rosa polyanthema Lunell, Am. Midl. Nat. 3: 138. 1913.

Thickets, open banks, loess hills, and prairies. Circumneutral to calciphile. Northwestern Mo.: Grundy, Caldwell, Nodaway, Atchison, Holt, and Buchanan counties.

Rosa carolina L. See Rh. 20: 91. 1918. Pasture Rose.

Rosa humilis Marsh. (G).

Rosa virginiana of auth. in part, not L. (B & B).

Thickets, open woods, and prairies. Circumneutral. General and probably in every county.

Rosa carolina var. *grandiflora* (Baker) Rehder in Bailey, Stand. Cyclop. Hort. 5: 2991. 1916.

Rosa obovata Raf.

Rocky open woods and thickets. Circumneutral. General but scattered: Clark, Lewis, Marion, Putnam, Adair, Grundy, Daviess, Shannon, Texas, Wright, Cedar, Hickory, Jasper, and Newton counties.

Rosa carolina var. *glandulosa* (Crepin) Farwell, Rept. Mich. Acad. Sci. 21: 366. 1920.

Rosa serrulata Raf.

Open woods and thickets. Circumneutral. Scattered: Maries, Schuyler, Clinton, and Jasper counties.

Rosa carolina var. *Lyonii* (Pursh) Palmer & Steyermark, comb. nov.

Rosa Lyonii Pursh.

Open woods, thickets, and rocky prairies. Circumneutral. General.

Rosa palustris Marsh. See Rh. 20: 91. 1918. Swamp Rose.

Rosa carolina of auth. not L. (G), (B & B).

Low swampy woods. Circumneutral. Southeastern Mo., in the lowlands: Cape Girardeau, Bollinger, Madison, Iron, Scott, Mississippi, Stoddard, Dunklin, Butler, Wayne, and Ripley counties.

Rosa palustris var. *dasistema* (Raf.) Palmer & Steyermark, comb. nov.

Rosa dasistema Raf.

Swamps and low wet woods. Circumneutral. Southeastern Mo.: in the lowlands: Scott, Stoddard, Dunklin, Butler, Wayne, and Iron counties.

ROSA RUGOSA Thunb.

Cultivated and escaped into fields and along railroads. Southwestern Mo., local: Greene Co.

ROSA EGLANTARIA L. Sweet-brier.

Rosa rubiginosa L. (G), (B & B).

Formerly planted in gardens and escaped and established in pastures and waste ground. Scattered: Clark, Marion, Montgomery, St. Louis, St. Francois, Boone, Dekalb, Clinton, Jackson, Johnson, and Jasper counties.

ROSA CANINA L. Dog Rose.

Ocasionally escaped from gardens to roadsides and waste ground. Dade Co.

ROSA SPINOSISSIMA L.

Ocasionally escaped to roadsides and waste ground. Boone Co.

ROSA CENTIFOLIA L.

An old garden rose, occasionally found as an escape in pastures and along roadsides. Clark Co.

Prunus serotina Ehrh. Wild Cherry.

Upland woods and along streams. Circumneutral. General and probably in every county.

Prunus virginiana L. Choke Cherry.

Thickets and borders of woods. Circumneutral. Northern and central Mo., mostly north of the Missouri River: Clark, Marion, Shelby, Schuyler, Putnam, Adair, Mercer, Harrison, Caldwell, Worth, Gentry, Clinton, Nodaway, Atchison, Buchanan, Sullivan, Boone, Saline, and Benton counties.

Prunus angustifolia Marsh. Chickasaw Plum.

Thickets and pastures. Circumneutral. General but scattered. Perhaps introduced by the Indians in prehistoric times: Grundy, Bollinger, Madison, Butler, Shannon, Jackson, Cass, Johnson, Pettis, Ozark, Stone, and Jasper counties.

Prunus angustifolia var. *varians* Wight & Hedrick, Plums of N. Y. p. 87. 1911.

Thickets, roadsides, and along prairie streams. Circumneutral. Central and southern Mo.: Dunklin, Ripley, Oregon, Johnson, Benton, Jasper, and Newton counties.

Prunus Munsoniana Wight & Hedrick, Plums of N. Y. p. 88. 1911. Wild Goose Plum.

Thickets, prairies, borders of streams, and waste ground. Circumneutral. General but scattered: Adair, Knox, Shelby, Marion, Monroe, Audrain, Boone, St. Louis, Cape Girardeau, Madison, Iron, Dunklin, Butler, Ripley, Shannon, Putnam, Mercer, Harrison, Caldwell, Jackson, Bates, Vernon, St. Clair, Dade, Taney, Stone, Jasper, Newton, and McDonald counties.

Prunus hortulana Bailey.

Thickets, open woods, and along streams. Circumneutral. General but commonest in central and southern Mo.

Prunus hortulana var. *pubens* Sarg. Trees & Shrubs 2: 248. 1913.

Thickets and open woods. Circumneutral. General but scattered: Marion, Pike, Boone, Howard, Shannon, Ozark, Jackson, and Jasper counties.

Prunus americana Marsh. Wild Plum.

Thickets, open woods, and pastures. Circumneutral. General.

Prunus lanata (Sudw.) Mack. & Bush.

Prunus arkansana Sarg.

Thickets and open woods. Circumneutral. General. *Prunus Palmeri* Sarg., found in southwestern Mo. and later referred to this species, may be distinct or possibly a hybrid between this and *P. hortulana*.

Prunus mexicana Wats. Big Tree Plum.

Rocky open woods. Circumneutral. Southern Mo.: Dunklin, Butler, Shannon, Ozark, Taney, and Stone counties.

PRUNUS SPINOSA L.

Introduced in thickets. Jasper Co.

PRUNUS MAHALEB L. Perfumed Cherry.

Thickets, pastures, and roadsides. Used as grafting stock by nurserymen and often escaped. Scattered: Marion, Gasconade, Jackson, and Jasper counties.

PRUNUS CERASUS L. Sour Cherry.

Thickets and roadsides. Cultivated and occasionally escaped. Scattered: Marion, Holt, Jackson, and Barry counties.

Fam. LEGUMINOSAE

Acacia angustissima (Mill.) Ktze. Prairie Acacia.

Glades and rocky open ground. Circumneutral to calciphile. Southwestern Mo., local: Barry Co.

Acacia angustissima var. *hirta* (Nutt.) Robinson.

Glades, rocky hillsides, and exposed ledges along bluffs. Circumneutral to calciphile. Southwestern Mo.: Jasper, Newton, McDonald, Barry, Stone, and Taney counties.

Desmanthus illinoensis (Michx.) MacM. False Sensitive Plant.

Rocky open ground, thickets, and prairies. Circumneutral to oxyophile. General but apparently absent from much of the Ozark region.

Desmanthus leptolobus T. & G.

Low open ground. Circumneutral. Southeastern Mo.: Cape Girardeau Co. Perhaps introduced.

Schranksia uncinata Willd. Sensitive Brier.

Rocky prairies, open banks, and glades. Circumneutral to calciphile. General but absent from many of the eastern and northern counties: Putnam, Marion, Shelby, Macon, Audrain, Boone, Cole, Gasconade, Jefferson, Washington, Crawford, Iron, Wayne, Carter, Ripley, Oregon, Shannon, Howell, Dent, Osage, Phelps, Pulaski, Maries, Moniteau, Morgan, Laclede, Dallas, Wright, Webster, Hickory, Ozark, Douglas, Greene, Taney, Stone, Jackson, Johnson, Vernon, Barton, Jasper, Newton, and McDonald counties.

Gymnocladus dioica (L.) Koch. Kentucky Coffee-tree.

Woods, chiefly along small streams: sometimes in alluvial bottoms. Circumneutral. General but nowhere very common.

Gleditsia triacanthos L. Honey Locust.

Woods, chiefly along small streams; sometimes in low alluvial ground. Circumneutral. General and probably in every county.

Gleditsia triacanthos var. *inermis* Pursh.

Occasionally found with the common form, mostly in eastern and southern Mo.: Harrison, Mercer, Shelby, Monroe, St. Louis, Jefferson, Franklin, Washington, Iron, Mississippi, and McDonald counties.

Gleditsia aquatica Marsh. Water Locust.

Low wet woods and swamps. Circumneutral. Southeastern Mo., in the lowlands and locally north along the Mississippi River: St. Charles, St. Louis, Jefferson, Cape Girardeau, Bollinger, Scott, Mississippi, New Madrid, Dunklin, Butler, and Ripley counties.

Hoffmannseggia Jamesii T. & G.

Dumps and waste ground. Found as a waif in Jasper Co.

Cassia Medsgeri Shafer.

Thickets, open woods, and along rocky branches. Circumneutral. General. This has often been confused with *Cassia marilandica*, an eastern species which it resembles.

Cassia Tora L.

Rocky open ground along streams, and sandy bottoms. Oxyophile. Southeastern Mo.: Dunklin Co., and also introduced in Jackson Co.

CASSIA OCCIDENTALIS L. Coffee Weed.

Low alluvial ground. Circumneutral. Scattered: Introduced in Jackson and New Madrid counties.

Cassia fasciculata Michx. Partridge Pea.

Cassia Chamaecrista of auth., not L. (G.).

Chamaecrista fasciculata (Michx.) Greene (B & B).

Thickets, glades, and rocky prairies. Circumneutral to oxyophile. General.

Cassia fasciculata f. *Jensenii* Palmer & Steyermark, f. nov.

Rarely occurring with the typical form. Local: Franklin Co.

A type reddit petalis albia.

MISSOURI: Gray Summit, Franklin Co., Aug. 20, 1928, L. P. Jensen (Mo. Bot. Gard. TYPE). See Jensen, Mo. Bot. Gard. Bull. 19: 38-39. 1931.

Differs from the typical form in having white instead of yellow petals.

Cassia fasciculata var. *robusta* (Pollard) Macbride, Contr. Gray Herb. N. S. 59: 24. 1919.

Cassia Chamaecrista var. *robusta* Pollard (G.).

Chamaecrista fasciculata (Michx.) Greene, in part (B & B).

Occasionally found with the typical form. Circumneutral. Scattered: Lincoln, St. Charles, St. Louis, Perry, Pemiscot, Boone, and Polk counties.

Cassia fasciculata var. *depressa* (Pollard) Macbride.

Cassia depressa Pollard (G.).

Chamaecrista depressa (Pollard) Greene (B & B).

Rocky open and alluvial ground. Circumneutral. Eastern Mo.: Washington Co.

Cassia nictitans L. Sensitive Pea.

Rocky woods, thickets, and prairies. Oxylophile to circumneutral. Central and southern Mo. south and east of a line from Lincoln, Montgomery, Boone, and St. Clair counties to Vernon Co.

Cercis canadensis L. Redbud.

Thickets and borders of woods, along rocky streams and bluffs. Circumneutral. General and probably in every county.

Baptisia leucantha T. & G. White Wild Indigo.

Prairies, glades, and rocky hillsides. Circumneutral. General.

Baptisia vespertina Rydb. Blue False Indigo.

Baptisia australis of auth., not R. Br. (G), (B & B).

Rocky prairies and glades. Calciphile to circumneutral. Central and southern Mo.: St. Louis, Jefferson, Franklin, St. Francois, Ste. Genevieve, Ozark, Taney, Stone, Barry, Greene, Hickory, Cedar, Vernon, Jasper, and Newton counties, and also introduced in Jackson Co.

Baptisia leucophaea Nutt.

Baptisia bracteata of auth., not (Muhl.) Ell. (G), (B & B).

Rocky prairies, meadows, and open woods. Circumneutral. General.

Baptisia leucophaea var. *laevicaulis* Gray.

Sometimes found with the typical form. Central and southern Mo.

Baptisia leucophaea × *vespertina*.

Rarely found with the parent species. Jasper Co.

Baptisia sphaerocarpa Nutt.

Introduced from farther south, along railways. Circumneutral. Scattered: St. Louis and Barry counties.

Cladrastis lutea (Michx. f.) Koch. Yellow Wood.

Along high rocky bluffs of White River and its tributaries. Circumneutral to calciphile. Southwestern Mo.: Taney, Stone, and Barry counties.

Crotalaria sagittalis L. Rattle-box.

Prairies, glades, and open sandy or rocky ground. Circumneutral to oxylophile. General.

TRIFOLIUM ARVENSE L. Rabbit-foot Clover.

Waste ground and along roadsides and railroads. Indifferent. Scattered: St. Louis, Phelps, Texas, Greene, Barry, and Jasper counties.

TRIFOLIUM INCARNATUM L. Crimson Clover.

Fields and waste ground. Indifferent. Scattered in middle and southeastern Mo.: Boone, St. Louis, Jefferson, Ste. Genevieve, Bollinger, Iron, Dunklin, Ripley, and Oregon counties.

TRIFOLIUM PRATENSE L. Red Clover.

Fields, meadows, waste and cultivated ground. Indifferent. General and common.

Trifolium reflexum L. Buffalo Clover.

Rocky open woods, glades, and prairies. Oxylophile to circumneutral. Northwestern, central, and southern Mo.: St. Louis, Jefferson, St. Francois, Ste. Genevieve, Iron, Madison, Bollinger, Wayne, Carter, Ripley, Oregon, Washington,

Howell, Shannon, Texas, Dent, Crawford, Maries, Phelps, Cooper, Morgan, Webster, Douglas, Atchison, Johnson, Greene, and Jasper counties.

Trifolium reflexum var. glabrum Lojacono.

Frequently occurring with the typical form, in similar situations. Central, southern, and western Mo.: Warren, St. Louis, Jefferson, Franklin, Phelps, Cole, Atchison, Jackson, Cass, Webster, Greene, Barry, and Jasper counties.

Trifolium stoloniferum Muhl. Running Buffalo Clover.

Open woods and prairies. Circumneutral. Central and southern Mo., scattered: Boone, St. Louis, Wayne, and Jasper counties.

Trifolium repens L. White Clover.

Fields, pastures, and waste ground. Indifferent. General and common.

TRIFOLIUM HYBRIDUM L. Alsike Clover.

Fields, roadsides, and waste ground. General and common.

Trifolium carolinianum Michx.

Glades and rocky prairies. Circumneutral to oxylophile. Southwestern Mo.: Jasper and Newton counties.

TRIPOLIUM AGRARIUM L. Yellow Hop Clover.

Fields and waste ground. Scattered: St. Charles and Christian counties.

TRIPOLIUM PROCUMBENS L. Low Hop Clover.

Rocky open ground, roadsides, and waste ground: Circumneutral. Eastern, central, and southern Mo. south of a line from Marion and Boone counties to Caldwell Co.

TRIPOLIUM DUBIUM Sibth. Little Hop Clover.

Roadsides and waste ground. Indifferent. Scattered: Boone, Johnson, Greene, and Jasper counties.

TRIPOLIUM RESUPINATUM L.

Waste and cultivated ground. Introduced in Johnson Co.

MELILLOTUS OFFICINALIS (L.) Lam. Yellow Sweet Clover.

Along roadsides, railroads, and in waste ground. Indifferent. General. Recently introduced in many places.

MELILLOTUS ALBA Desf. White Sweet Clover.

Roadsides, railroads, and waste ground. Indifferent. General and common.

MEDICAGO SATIVA L. Alfalfa.

Commonly cultivated in recent years, and often escaping along railroads and roadsides. Indifferent. General.

MEDICAGO LUPULINA L. Black Medick.

Roadsides and waste ground. Indifferent. General.

MEDICAGO HISPIDA Gaertn. Bur Clover.

Introduced along railroads and in waste ground. Jackson Co.

LOTUS CORNICULATUS L. Ground Honeysuckle.

Waste and cultivated ground. Introduced in Boone and Clay counties.

Lotus americanus (Nutt.) Bisch. Prairie Trefoil.

Hosackia americana (Nutt.) Piper (G), (B & B).

Prairie swales and glades, and also frequently adventized along roadsides and

railroads. Circumneutral. Central and southern Mo.; mostly in the western prairie region: Jefferson, Saline, Jackson, Henry, Vernon, Barton, Jasper, Newton, and McDonald counties.

***Psporalea Onobrychis* Nutt. French Grass.**

Open woods, low alluvial thickets, and river banks. Circumneutral. Northeastern and east-central Mo.: Clark, Marion, Ralls, Shelby, St. Louis, Jefferson, and Franklin counties.

***Psporalea pedunculata* (Mill.) Vail.**

Open rocky woods, glades, and prairies. Circumneutral to oxyophile. Central and southern Mo.: St. Louis, Jefferson, Franklin, St. Francois, Washington, Crawford, Iron, Dent, Shannon, Reynolds, Phelps, Maries, Pulaski, Texas, Laclede, Howell, Camden, Wright, Webster, Douglas, Hickory, Greene, Lawrence, Bates, Vernon, Jasper, Newton, and McDonald counties.

***Psporalea tenuiflora* Pursh. Scurfy Pea.**

Psporalea tenuiflora var. *floribunda* (Nutt.) Rydb. (G).

Psporalea floribunda Nutt. (B & B).

Glades, rocky or open prairies, and open woods. Calciphile to circumneutral. Southern and central Mo. north to Monroe, Daviess, and Clinton counties.

***Psporalea argophylla* Pursh.**

Prairies and loess hills. Calciphile to circumneutral. Northwestern and west-central Mo.: Atchison, Holt, and Jackson counties.

***Psporalea esculenta* Pursh. Prairie Turnip, Indian Bread-root.**

Rocky prairies and glades. Calciphile to circumneutral. Central and southern Mo.: St. Louis, Jefferson, Franklin, Miller, Dallas, Greene, Ozark, Taney, Cedar, Jackson, and Bates counties.

***Dalea alopecuroides* Willd.**

Parosela leporina (Ait.) Rydb. var. *alba* (Michx.) Macbride, Contr. Gray Herb. 65: 17. 1922.

Parosela Dalea (L.) Britton (B & B).

Loess hills, sandy open ground, and alluvial ground along rivers. Circumneutral. Northern, central, and eastern Mo., scattered: Putnam, Boone, St. Louis, Jefferson, Mississippi, Atchison, Holt, Andrew, Buchanan, Clay, Jackson, Cass, and Johnson counties.

***Dalea enneandra* Nutt.**

Parosela enneandra (Nutt.) Britton (B & B).

Loess hills and plains. Calciphile to circumneutral. Northwestern Mo.: Atchison and Holt counties.

***Petalostemum purpureum* (Vent.) Rydb. Red Tassel-flower, Prairie Clover.**

Prairies, glades, and rocky hillsides. Calciphile to circumneutral. General.

***Petalostemum purpureum* var. *pubescens* Gray.**

Occasionally found with the typical form. Scattered: Shannon, Taney, Barry, Jasper, and McDonald counties.

***Petalostemum multiflorum* Nutt.**

Rocky prairies and along railroads. Adventized from farther west. Jackson Co.

Petalostemum candidum Michx. White Tassel-flower, White Prairie Clover.
Prairies, glades, and rocky hillsides. Calciphile to circumneutral. General.

Tephrosia virginiana (L.) Pers. Goat's Rue, Hoary Pea.

Rocky open woods, prairies, and glades. Circumneutral to oxylophile. General: common in the Ozark region and scattered northward; known north of the Missouri River in Putnam, Monroe, Warren, Boone, and Howard counties. *Tephrosia virginiana* var. *holosericea* (Nutt.) T. & G.

Occasionally found with the typical form. Dallas and Cedar counties. *Sesbania macrocarpa* Muhl.

Low sandy fields and sand bars of streams. Oxylophile. Southern Mo., in the southeastern lowlands and locally along White River: Mississippi, New Madrid, Pemiscot, Dunklin, and Barry counties.

Wisteria macrostachya Nutt.

Low woods along streams, and borders of swamps and bayous. Circumneutral. Southeastern Mo.: Scott, Mississippi, Pemiscot, Dunklin, Butler, and Ripley counties, and also escaped from cultivation in Adair Co.

Wisteria frutescens (L.) Poir.

Cultivated, and escaped in Daviess Co.

Robinia Pseudo-Acacia L. Black Locust.

Rocky upland woods, pastures, and waste ground. Circumneutral. General: native in parts of the Ozark region and escaped from cultivation elsewhere.

Astragalus caryocarpus Ker. Ground Plum.

Prairies and glades. Circumneutral to calciphile. Western Mo., scattered: Atchison, Jackson, Vernon, Greene, and Jasper counties.

Astragalus mexicanus A. DC. Ground Plum.

Rocky prairies, glades, ledges along bluffs, and rocky open woods. Calciphile to circumneutral. Central and southern Mo., south and east of a line drawn from St. Charles, Montgomery, Boone, Morgan, and Henry counties to Jasper Co.

Astragalus canadensis L. Rattle Weed.

Open woods, thickets, and prairies. Circumneutral. General: Schuyler, Knox, Marion, Ralls, St. Charles, St. Louis, Jefferson, Franklin, Scott, Butler, Shannon, Texas, Howell, Phelps, Pulaski, Miller, Morgan, Boone, Sullivan, Linn, Mercer, Harrison, Atchison, Dekalb, Jackson, St. Clair, Dallas, Greene, Cedar, Stone, and Jasper counties.

Astragalus distortus T. & G.

Rocky prairies and glades. Calciphile to circumneutral. General but scattered: Marion, Ralls, Monroe, St. Louis, Jefferson, Franklin, Scott, Butler, Shannon, Moniteau, Miller, Montgomery, Boone, Livingston, Jackson, Cass, Johnson, Hickory, Polk, Vernon, Dade, Greene, Jasper, and McDonald counties.

Astragalus lotiflorus Hook.

Loess hills and plains. Calciphile to circumneutral. Northwestern Mo.: Atchison and Holt counties.

Oxytropis plattensis Nutt. Loco Weed.

Oxytropis Lamberti Pursh (G), (B & B).

Loess hills. Calciphile. Northwestern Mo.: Atchison and Holt counties.

Amorpha fruticosa L. False Indigo.

Low open woods, thickets, and banks of streams. Circumneutral. General and probably in every county.

Amorpha fruticosa var. *tennesseensis* (Shuttlew.) Palmer, Jour. Arnold Arb. 12: 192, fig. 20b. 1931.*Amorpha tennesseensis* Shuttlew.

Rocky banks and moist ground along prairie streams. Circumneutral. Southern Mo.: Shannon, Ozark, Taney, Stone, Barry, Jasper, and McDonald counties.

Amorpha fruticosa var. *angustifolia* Pursh.

Wet ground along streams and borders of ponds. Circumneutral. Central and southern Mo.

Amorpha fruticosa var. *oblongifolia* Palmer, Jour. Arnold Arb. 12: 192, fig. 20c. 1931.

Wet ground, thickets, and along prairie streams. Circumneutral. Western Mo.: Atchison and Jasper counties.

Amorpha croceolanata Wats.

Sandy open ground. Circumneutral to oxyophile. Southeastern Mo.: Dunklin Co.

Amorpha canescens Pursh. Lead Plant.

Rocky open woods, prairies, and glades. Oxyophile to circumneutral. General.

Amorpha canescens var. *glabrata* Gray.

Rocky open woods, bluffs, and glades. Oxyophile to circumneutral. Central and southern Mo.: Maries, Boone, Macon, Benton, Hickory, Dallas, Morgan, Ozark, Stone, and Jasper counties.

Amorpha brachycarpa Palmer, Jour. Arnold Arb. 12: 171, pl. 36. fig. 6. 1931.

Rocky open woods and glades. Circumneutral. Southwestern Mo.: Stone Co.

Glycyrrhiza lepidota (Nutt.) Pursh. Wild Licorice.

Loess hills, prairies, and waste ground. Calciphile to circumneutral. Native in northwestern Mo. and introduced in other parts of the state. Scattered: Marion, St. Louis, Jefferson, Moniteau, Gentry, Atchison, Holt, Andrew, Jackson, and Jasper counties.

CORONILLA VARIA L. Crown Vetch.

Roadsides and waste ground. Circumneutral. St. Louis and Taney counties. Introduced near St. Louis by Fendler.

Desmodium acuminatum (Michx.) DC. Beggar's Lice, Beggar's Ticks.*Desmodium grandiflorum* (Walt.) DC. (G.).*Meibomia grandiflora* (Walt.) Ktze. (B & B).

Rocky open or rich low woods and bluffs. Circumneutral. General.

Desmodium nudiflorum (L.) DC. Tick Trefoil.

Rocky woods. Oxyophile. Central and southern Mo., south of a line drawn from Ralls and Randolph counties to Jackson Co.

Desmodium pauciflorum (Nutt.) DC.

Rich or rocky woods and thickets. Circumneutral. Central and southern Mo.: Boone, Franklin, St. Louis, Jefferson, Scott, Mississippi, New Madrid, Dunklin, Stoddard, Butler, Ripley, Pulaski, Greene, Jasper, and Newton counties.

***Desmodium rotundifolium* (Michx.) DC.**

Rocky open woods. Oxyophile. Central and southern Mo., south and east of a line drawn from St. Louis, Warren, Boone, Morgan, and Hickory counties to Jasper Co.

***Desmodium ochroleucum* M. A. Curtis.**

Open woods and low open ground. Circumneutral. Southeastern Mo.: Stoddard and Shannon counties.

***Desmodium canescens* (L.) DC. Beggar's Lice, Beggar's Ticks.**

Dry open woods and thickets. Circumneutral to oxyophile. General.

***Desmodium canescens* var. *hirsutum* (Hook.) Robinson.**

In similar situations to the typical form. Circumneutral to oxyophile. Scattered: St. Louis, Jefferson, Butler, Boone, Texas, Greene, Jasper, and Jackson counties.

***Desmodium bracteosum* (Michx.) DC.**

Dry open woods and thickets. Circumneutral to calciphile. General.

***Desmodium bracteosum* var. *longifolium* (T. & G.) Robinson.**

In similar situations to the typical form. Scattered: Marion, St. Louis, Gentry, Boone, Jackson, and Jasper counties.

***Desmodium illinoense* Gray.**

Prairies, glades, and rocky, open woods. Circumneutral to oxyophile. Northern, central, and western Mo., absent from the Ozark region: Adair, Lewis, Marion, Ralls, Monroe, Crawford, Boone, Saline, Pettis, Worth, Gentry, DeKalb, Clinton, Caldwell, Jackson, Greene, and Jasper counties.

***Desmodium laevigatum* (Nutt.) DC.**

Rocky open woods. Circumneutral to oxyophile. Eastern and southern Mo.: Ralls, Ste. Genevieve, Iron, Reynolds, Shannon, Phelps, Pulaski, Douglas, Ozark, Taney, Barry, and Jasper counties.

***Desmodium viridiflorum* (L.) Beck.**

Open woods, glades, and rocky prairies. Circumneutral to oxyophile. Southern Mo.: Scott, Dunklin, Ripley, Shannon, Howell, Barry, and McDonald counties.

***Desmodium Dillenii* Dill.**

Rocky open woods, thickets, and glades. Oxyophile to circumneutral. General.

***Desmodium paniculatum* (L.) DC.**

Rich woods and thickets and alluvial ground. Circumneutral to calciphile. General.

***Desmodium paniculatum* var. *pubens* T. & G.**

In similar situations to the typical form. General.

***Desmodium paniculatum* var. *angustifolium* T. & G.**

In similar situations to the typical form. General.

***Desmodium sessilifolium* (Torr.) T. & G.**

Rocky open woods, prairies, and glades. Circumneutral to calciphile. General.

Desmodium canadense (L.) DC.

Prairies and open thickets. Circumneutral. Northern, central, and western Mo., apparently absent from the Ozark region: Clark, Schuyler, St. Louis, Mercer, Saline, Jackson, and Jasper counties.

Desmodium rigidum (Ell.) DC.

Rocky woods, glades, and prairies. Oxylophile to circumneutral. Southern and central Mo.: Lincoln, St. Louis, Jefferson, St. Francois, Dunklin, Butler, Iron, Dent, Crawford, Pulaski, Cole, Howell, Moniteau, Boone, Douglas, Taney, Barry, Jasper, Newton, and McDonald counties.

Desmodium obtusum (Muhl.) DC.

Dry open woods, glades, and sandy or rocky open ground. Oxylophile. Central and southern Mo.: Boone, St. Louis, Jefferson, Scott, Mississippi, Dunklin, Stoddard, Reynolds, Shannon, Dent, Phelps, Pulaski, Howell, Maries, Dallas, Hickory, Henry, Pettis, Greene, Ozark, Stone, Barry, Jasper, and McDonald counties.

Desmodium marilandicum (L.) DC.

Dry open woods and thickets. Oxylophile. Central and southern Mo.: Montgomery, Warren, Lincoln, St. Louis, Jefferson, Franklin, Iron, Wayne, Ripley, Reynolds, Dent, Crawford, Maries, Phelps, Pulaski, Camden, Greene, Taney, Stone, Barry, Jackson, Jasper, Newton, and McDonald counties.

Desmodium canadense × *Dillenii*.

Rarely found with the parent species. Local: St. Louis Co.

Lespedeza procumbens Michx. Bush Clover.

Dry rocky woods. Oxylophile to circumneutral. Southern and central Mo. south and east of a line drawn from St. Louis, Boone, and Hickory counties to Jasper Co.

Lespedeza repens (L.) Bart.

Rocky open woods. Oxylophile to circumneutral. Southern and central Mo. south of a line drawn from Lincoln, Boone, and Saline counties to Cass Co.

Lespedeza violacea (L.) Pera. Bush Clover.

Lespedeza violacea var. *prairea* Mack. & Bush (G).

Rocky or dry open woods, thickets, and rocky prairies. Circumneutral. General.

Lespedeza Manniana Mack. & Bush.

Rocky woods and glades. Circumneutral. Scattered in central and southern Mo.: Jefferson, Newton, and Jackson counties. Probably a hybrid between *Lespedeza virginica* and *L. capitata*.

Lespedeza Stuevei Nutt. See Rh. 28: 28. 1924.

Dry open woods, thickets, and prairies. Oxylophile to circumneutral. Southern Mo.: Ste. Genevieve, Scott, Mississippi, Stoddard, Dunklin, Shannon, Phelps, Pulaski, Howell, Ozark, Taney, Vernon, Barry, Jasper, Newton, and McDonald counties.

Lespedeza Stuevei var. *angustifolia* Britton. See Rh. 26: 29. 1924.

Lespedeza Stuevei var. *neglecta* Britton (G).

Occasionally found with the typical form. Scattered in southern and central Mo.: St. Louis, Iron, and Pulaski counties. Probably a hybrid between *Lespedeza virginica* and *Lespedeza Stuevei*.

Lespedeza virginica (L.) Britton. Bush Clover.

Rocky or dry open woods, thickets, prairies, and glades. Circumneutral to oxylophile. General and common.

Lespedeza intermedia (Wats.) Britton. See Rh. 26: 29-31. 1924.

Lespedeza frutescens Britton, not *Hedysarum frutescens* L. (G), (B & B).

Rocky open woods and thickets. Circumneutral to oxylophile. Southern and east-central Mo.: St. Louis, Ste. Genevieve, Bollinger, Iron, Butler, Reynolds, Shannon, Dent, Phelps, Henry, Taney, Stone, Barry, Jasper, and McDonald counties.

Lespedeza simulata Mack. & Bush.

Dry open woods and rocky prairies. Circumneutral. Southwestern Mo.: Barry, Jasper and Newton counties. Probably a hybrid between *Lespedeza virginica* or *Lespedeza Stuevei* and *Lespedeza capitata*.

Lespedeza acuticarpa Mack. & Bush.

Rocky open woods, prairies, and glades. Circumneutral. Southern and western Mo.: Iron, Shannon, Barry, and Jackson counties. Probably a hybrid between *Lespedeza virginica* or *Lespedeza frutescens* and *Lespedeza violacea*.

Lespedeza Nuttallii Darl.

Dry rocky woods and thickets. Circumneutral to oxylophile. Southern Mo.: Iron, Phelps, Miller, Wright, and Jasper counties.

Lespedeza hirta (L.) Hornem. Hairy Bush Clover.

Rocky open woods, thickets, and glades. Oxylophile. Central and southern Mo. south and east of a line drawn from St. Louis, Warren, Morgan, and Cedar counties to Barton Co.

Lespedeza capitata Michx.

Rocky prairies, thickets, and glades. Oxylophile to circumneutral. General.

Lespedeza capitata var. *longifolia* (DC.) T. & G.

Sometimes found with the typical form. Scattered: St. Louis, Jackson, and Jasper counties.

Lespedeza capitata var. *sericea* H. & A.

In similar situations to the typical form, and in many places more common. Circumneutral. General.

LESPEDEZA STRIATA (Thunb.) H. & A. Japanese Clover.

Dry open woods and roadsides; generally in rocky or gravelly ground. Oxylophile. Eastern, southern, and central Mo.

LESPEDEZA STIPULACEA Maxim. Corean Clover.

Open woods, roadsides, and waste ground. Indifferent. General. Recently introduced and being planted in many places along roadsides for a ground cover, and likely to spread widely as an introduced species.

Stylosanthes biflora (L.) BSP.

Rocky open woods, prairies, and glades. Oxylophile to circumneutral. Central and southern Mo.: Boone, Lincoln, St. Charles, St. Louis, Jefferson, Franklin, Washington, Iron, Reynolds, Dunklin, Ripley, Oregon, Shannon, Dent, Maries, Texas, Howell, Laclede, Wright, Taney, Stone, Greene, Polk, Hickory, Ozark, Jackson, Vernon, Barton, Jasper, McDonald, and Barry counties.

Stylosanthes biflora var. *hispidissima* (Michx.) Pollard & Ball.

Similar situations to the preceding. Oxylophile to circumneutral. Central and southern Mo.: Mississippi, Iron, Reynolds, Carter, Oregon, Howell, Douglas, Dent, Maries, Pulaski, Boone, Henry, Laclede, Dallas, Hickory, Greene, Stone, Barry, and McDonald counties.

Vicia sativa L. Spring Vetch.

Waste ground and roadsides. Escaped from cultivation. Indifferent. Scattered: St. Louis, Jefferson, and Jackson counties.

Vicia villosa Roth. Winter Vetch.

Fields, waste ground, and roadsides. Indifferent. Scattered: Boone, St. Louis, Jefferson, Texas, Howell, Livingston, Clay, and Jasper counties.

Vicia ludoviciana Nutt.

Rich rocky woods. Circumneutral. Southwestern Mo.: Greene and McDonald counties.

Vicia caroliniana Walt.

Rich woods and alluvial banks. Oxylophile to circumneutral. East-central and southern Mo.: Franklin, Washington, Bollinger, Madison, Wayne, Reynolds, Carter, Ripley, Oregon, Howell, Texas, Phelps, Pulaski, Dallas, Wright, Douglas, Greene, Christian, Taney, Barry, Newton, and McDonald counties.

Vicia americana Muhl.

Open woods and thickets. Circumneutral. Northern and central Mo.: St. Louis, Jefferson, Atchison, Holt, Platte, Jackson, and Bates counties.

Vicia angustifolia (L.) Reichard.

Fields and waste ground. Indifferent. Introduced in Boone and Jackson counties.

Vicia micrantha Nutt.

Hickets and prairies. Circumneutral. Introduced in Jackson Co.

Vicia tetrasperma (L.) Moench.

Roadsides and waste ground. Indifferent. Introduced in Jackson Co.

Lathyrus venosus Muhl. var. *intonsus* Butters & St. John, Rh. 19: 158. 1917.

Bushy Vetch.

Rocky open woods. Circumneutral. East-central and southern Mo.: St. Louis, Crawford, Wayne, Carter, Shannon, Howell, and Barry counties.

Lathyrus pusillus Ell.

Rocky open woods and chert glades. Oxylophile. Southwestern Mo.: Jasper and Newton counties.

Lathyrus palustris L. See Rh. 13: 50. 1911. Marsh Pea.

Open woods and moist banks. Circumneutral. Central Mo., scattered: Boone, Ray, and Jackson counties.

Lathyrus palustris var. *myrtifolius* (Muhl.) Gray.

Open woods and moist banks. Oxylophile to circumneutral. Central and southeastern Mo.: Boone, St. Louis, Jefferson, Scott, and Iron counties.

Apis americana Medic. See Rh. 36: 88-89. 1934. Groundnut.

Apis tuberosa Moench (G), (B & B).

Thickets and borders of streams. Circumneutral to oxylophile. General.

Phaseolus polystachyus (L.) BSP. Wild Bean.

Rocky open woods and thickets. Circumneutral. East-central and southern Mo.: St. Louis, Jefferson, Iron, Dunklin, Ripley, Phelps, Pulaski, Dallas, Douglas, Greene, Jasper, and McDonald counties.

Vigna sinensis (L.) Endl. Cow Pea.

Occasionally escaped from cultivation. Jackson Co.

Strophostyles helvola (L.) Britton.

Rich rocky woods and thickets. Circumneutral. General.

Strophostyles helvola var. *missouriensis* (Wats.) Britton.

Moist alluvial ground, woods, and thickets. Circumneutral. General but scattered: Clark, Boone, Gasconade, Lincoln, St. Charles, St. Louis, Jefferson, Mississippi, New Madrid, Pemiscot, Dunklin, Butler, Clay, Jackson, and DeKalb counties.

Strophostyles umbellata (Muhl.) Britton.

Moist woods and thickets. Circumneutral to oxylophile. General but scattered: Clark, Marion, Boone, St. Louis, Jefferson, Ste. Genevieve, Iron, Dunklin, Butler, Shannon, Phelps, Taney, Clay, and Jasper counties.

Strophostyles pauciflora (Benth.) Wats.

Open woods, thickets, and prairies. Circumneutral to oxylophile. General. *Clitoria mariana* L. Turkey Pea, Butterfly Pea.

Rocky open woods and glades. Oxylophile. Southern Mo.: Ste. Genevieve, Madison, Iron, Wayne, Reynolds, Carter, Shannon, Howell, Douglas, Taney, Stone, Barry, Newton, and McDonald counties.

Amphicarpa bracteata (L.) Fernald, Rh. 35: 276. 1933. Hog Peanut.

Amphicarpa monoica (L.) Ell. (G).

Falcata comosa (L.) Ktze. (B & B).

Open woods and thickets. Circumneutral to oxylophile. General.

Amphicarpa comosa (L.) G. Don. See Rh. 35: 276. 1933.

Amphicarpa Pitcheri T. & G. (G).

Falcata Pitcheri (T. & G.) Ktze. (B & B).

Moist rich woods and thickets. Circumneutral. General but scattered: Marion, Ralls, Pike, St. Louis, Jefferson, Iron, Reynolds, Shannon, Phelps, Cole, Boone, Randolph, Grundy, Clinton, Platte, Jackson, Cass, Greene, Taney, and Jasper counties.

Galactia regularis (L.) BSP. Milk Pea.

Thickets and open woods along streams. Circumneutral to oxylophile. Southern Mo.: Dunklin, Butler, Shannon, and Barry counties.

Galactia volubilis (L.) Britton var. *mississippiensis* Vail.

Rocky woods, slopes, and glades. Oxylophile. Eastern and southern Mo., mostly in the Ozark region: Knox, St. Charles, Jefferson, Ste. Genevieve, Perry, Dunklin, Butler, Scott, Bollinger, Ripley, Oregon, Wayne, Shannon, Reynolds, Dent, Phelps, Pulaski, Texas, Howell, Douglas, Taney, Barry, Dallas, Jasper, and McDonald counties.

Rhynchosia tomentosa (L.) H. & A.

Dolicholus tomentosus (L.) Vail (B & B).

Sandy open ground. Oxylophile. Southeastern Mo.: Dunklin Co.

Rhynchosia latifolia Nutt.*Dolicholus latifolius* (Nutt.) Vail (B & B).

Sandy prairies, thickets, and rocky open woods along streams. Oxylophile. Southern Mo.: Mississippi, Stoddard, Dunklin, Ripley, Ozark, and McDonald counties.

Fam. OXALIDACEAE

Oxalis violacea L. Sheep Sour, Wood Sorrel.

Rocky open woods, glades, and rocky prairies. Circumneutral. General.

Oxalis floridana Salisb. var. *strigosifolia* Wiegand, Rh. 27: 134. 1925.*Oxalis flipes* Small, in part (G).

Open woods and thickets. Oxylophile. Southeastern Mo., local: Ripley Co.

Oxalis europaea Jord. See Rh. 27: 134. 1925. Lady's Sorrel.*Oxalis corniculata* of Am. auth., not L. (G).*Xanthozalis corniculata* (L.) Small (B & B).

Open woods, thickets, fields, and waste ground. Circumneutral. General and common.

Oxalis europaea f. *pilosella* Wiegand, Rh. 27: 135. 1925.

Similar situations to the last. Oxylophile. Scattered: St. Louis, Boone, and Jackson counties.

Oxalis europaea f. *willicaulis* Wiegand, Rh. 27: 135. 1925.

Frequently occurring with the other forms. St. Louis, Jefferson, and Douglas counties.

Oxalis europaea f. *cymosa* (Small) Wiegand, Rh. 27: 135. 1925.*Oxalis cymosa* Small.*Xanthozalis cymosa* Small (B & B).

Rocky open woods, fields, and waste ground. Circumneutral. General.

Oxalis europaea var. *Bushii* (Small) Wiegand, Rh. 27: 135. 1925.*Oxalis Bushii* Small.*Xanthozalis Bushii* Small (B & B).*Oxalis interior* (Small) Fedde.*Xanthozalis interior* Small (B & B).

Open woods and rocky waste ground. Circumneutral. Southern and central Mo.: Jefferson, Boone, Jackson, Johnson, Newton, and Jasper counties.

Oxalis europaea var. *Bushii* f. *subglabrata* Wiegand, Rh. 27: 136. 1925.

Occasionally found with the typical and other forms. Jackson Co.

Oxalis stricta L. Sheep Sorrel, Yellow Wood Sorrel.

Rocky open woods, prairies, fields, and glades. Circumneutral. General.

Oxalis stricta var. *pilletocarpa* Wiegand, Rh. 27: 123. 1925.

Prairies, open thickets, and glades. Circumneutral. General.

Oxalis corniculata L. See Rh. 27: 120. 1925.*Oxalis repens* Thunb. (G).*Xanthozalis corniculata* (L.) Small, in part (B & B).

Fields and waste ground, and frequently about greenhouses and gardens.

Indifferent. Scattered: St. Louis, Jefferson, St. Francois, Boone, Jackson, and Jasper counties.

Oxalis corniculata var. *viscidula* Wiegand, Rh. 27: 121. 1925.

Commonly occurring with the typical form. Oxyophile. St. Louis and Jackson counties.

Oxalis pilosa Nutt. var. *Wrightii* (Gray) Wiegand, Rh. 28: 67. 1926.

Open and waste ground. Oxyophile. Introduced in Jackson Co.

Fam. GERANIACEAE

Geranium maculatum L. Wild Geranium, Cranesbill.

Rich or rocky open woods, and thickets. Circumneutral. General.

Geranium carolinianum L.

Meadows, prairies, glades, and waste ground. Circumneutral to oxyophile. General.

Geranium carolinianum var. *confertiflorum* Fernald, Rh. 37: 300. 1935.

Similar situations to the preceding. Oxyophile. General.

Geranium pusillum Burm. f.

Rocky open ground. Circumneutral. Southwestern Mo., local: McDonald Co. ERODIUM CICUTARIUM (L.) L'Her. Pink Needle, Storksbill.

Open and waste ground. Circumneutral. Introduced in Boone and Platte counties.

Fam. LINACEAE

Linum medium (Planch.) Britton.

Prairies, rocky woods, and glades. Circumneutral. Central and southern Mo.: Boone, Callaway, St. Louis, Jefferson, Franklin, Washington, Ste. Genevieve, St. Francois, Madison, Iron, Reynolds, Ripley, Oregon, Shannon, Dent, Phelps, Camden, Wright, Polk, Hickory, Cedar, St. Clair, Greene, Ozark, Taney, Barry, Vernon, Barton, Jasper, Newton, and McDonald counties.

Linum rigidum Pursh.

Rocky and waste ground. Circumneutral. Introduced in Jackson Co.

Linum sulcatum Riddell.

Rocky prairies, glades, and open woods. Circumneutral. General.

Linum striatum Walt.

Moist woods, bogs, and wet sandy open ground. Oxyophile to circumneutral. Eastern Mo., south of the Missouri River; Franklin, Jefferson, Ste. Genevieve, Perry, Iron, Bollinger, Scott, Dunklin, Butler, and Ripley counties.

LINUM USITATISSIMUM L. Flax, Linseed.

Cultivated and frequently adventive along railroads and roadsides. Indifferent. Scattered: Boone, Warren, St. Louis, Franklin, Saline, Clay, Jackson, Greene, Barton, and Jasper counties.

Fam. ZYGOPHYLLACEAE

TRIBULUS TERRESTRIS L. Caltrop.

Waste ground. Indifferent. Scattered: St. Louis, Franklin, Boone, Moniteau, Atchison, Andrew, and Jackson counties.

Kallstroemia intermedia Rydb.*Kallstroemia maxima* (L.) T. & G. (G).

Waste ground. Oxylophile. Scattered: Jefferson, Jackson, and Jasper counties.

Fam. RUTACEAE

Xanthoxylum americanum Mill. Prickly Ash.

Thickets and open rocky woods. Circumneutral to calciphile. General, although apparently absent from parts of the Ozark region.

Ruta graveolens L. Rue.

Planted in old gardens and occasionally escaped into waste ground. Indifferent. Franklin Co.

Ptelea trifoliata L. Hop Tree, Wafer Ash.

Rocky thickets and glades. Circumneutral to oxylophile. Eastern, central, and southern Mo., and locally in Atchison Co., in the northwestern part. Commonest in the Ozark region.

Fam. SIMARUBACEAE

Ailanthus altissima (Mill.) Swingle, Jour. Wash. Acad. Sci. 6: 495. 1916. Tree of Heaven.*Ailanthus glandulosa* Desf. (G), (B & B).

A Chinese tree commonly planted and escaping in many places. Thickets and along streams. Scattered: St. Louis, Ripley, Jackson, Greene, and Jasper counties.

Fam. POLYGALACEAE

Polygala senega L. Seneca Snakeroot.

Rocky open woods, thickets, and clearings. Oxylophile to circumneutral. Scattered: Schuyler, Sullivan, Dent, and Ozark counties.

Polygala senega var. *latifolia* T. & G.

In similar situations to the typical form and more common. Oxylophile to circumneutral. Southern Mo.: Iron, Reynolds, Carter, Ripley, Oregon, Shannon, Dent, Phelps, Wright, Webster, Douglas, Ozark, Taney, Dallas, Hickory, Polk, Greene, Stone, Barry, and McDonald counties.

Polygala incarnata L. Pink Milkwort.

Prairies and glades. Circumneutral to oxylophile. Southern and western Mo.: Dent, Texas, Greene, Clinton, Jackson, Cass, Henry, Vernon, Jasper, Newton, and McDonald counties.

Polygala sanguinea L. Field Milkwort.

Prairies, glades, and meadows. Circumneutral. General.

Polygala verticillata L.

Open woods, thickets, and glades. Circumneutral to oxylophile. General: Sullivan, Clark, Boone, St. Charles, St. Louis, Jefferson, Washington, Crawford, Wayne, Reynolds, Shannon, Dent, Wright, Greene, Stone, Polk, Morgan, Saline, Atchison, Holt, Jackson, Jasper, Newton, and McDonald counties.

Polygala verticillata var. *ambigua* (Nutt.) Wood.

Rocky woods and glades. Oxylophile. Southern Mo.: Washington, Iron, Dent, Shannon, Texas, Howell, Greene, Stone, Barry, and McDonald counties.

Polygala verticillata var. *sphenostachya* Pennell, *Bartonia* 13: 12. 1932.
Limestone glades. Calciphile. Local: Jackson Co.

Fam. EUPHORBIACEAE

Croton glandulosus L. var. *septentrionalis* Muell. Arg.

Prairies, open woods, cultivated and waste ground. Oxylophile to circumneutral. General but commonest in central and southern Mo.

Croton capitatus Michx. Hogwort.

Prairies, glades, and waste ground. Circumneutral to oxylophile. General and common.

Croton monanthogynus Michx.

Dry prairies, barrens, glades, and waste ground. Circumneutral to oxylophile. General, except perhaps in parts of northern Mo.

Croton Engelmanni Ferg.

Open ground. Circumneutral to oxylophile. Southern Mo.: Scott, Mississippi, New Madrid, Pemiscot, Stoddard, Butler, Ripley, and Howell counties, and also adventized along railways in St. Louis and Moniteau counties.

Croton texensis (Klotzsch) Muell. Arg.

Introduced along railroads. Oxylophile. Jackson Co.

Crotonopsis elliptica Willd. See *Bull. Torr. Bot. Club* 45: 478-479. 1919.

Crotonopsis linearis of auth. in part, not Michx. (G), (B & B).

Rocky open woods and glades. Oxylophile. East-central and southern Mo.: Lincoln, Montgomery, Warren, St. Charles, Gasconade, Franklin, St. Louis, Jefferson, St. Francois, Ste. Genevieve, Perry, Bollinger, Madison, Iron, Wayne, Shannon, Dent, Phelps, Crawford, Pulaski, Texas, Greene, Polk, St. Clair, Barry, Vernon, Jasper, Newton, and McDonald counties.

Crotonopsis linearis Michx.

Open sandy ground. Oxylophile. Southeastern Mo.: Stoddard and Dunklin counties.

MERCURIALIS ANNUA L. Mercury.

Introduced in waste ground. St. Louis Co.

Acalypha virginica L. Three-seeded Mercury.

Prairies, thickets, open woods, and cultivated and waste ground; usually in moist or wet ground. Circumneutral. General.

Acalypha digyna Raf. See *Rh.* 29: 198. 1927.

In similar situations to the preceding. Circumneutral. Eastern, central, and southern Mo.: Marion, St. Charles, St. Louis, Jefferson, St. Francois, Perry, Butler, Dent, Phelps, Pulaski, Cole, Dallas, Montgomery, Boone, Randolph, Saline, Linn, Clinton, Jackson, Barton, and Jasper counties.

Acalypha gracilens Gray var. *monococca* Engelm. See *Rh.* 29: 203. 1927.

Acalypha gracilens of auth. in part, not Gray (G), (B & B).

Rocky prairies, open woods, and glades. Circumneutral. Eastern, central, and southern Mo., commonest in the Ozark region.

Acalypha ostryaefolia Riddell.

Moist open and cultivated ground. Circumneutral. East-central and southern Mo.: Gasconade, St. Louis, Jefferson, Perry, Mississippi, Reynolds, Howell, Ozark, Barry, and Jasper counties.

RICINUS COMMUNIS L. Castor-oil Plant.

Cultivated and sometimes adventive in waste ground. Indifferent. Scattered: Lincoln, St. Louis, Dunklin, Boone, Jackson, and Jasper counties.

Tragia urticaefolia Michx.

Tragia nepetaefolia of auth., not Torr. (B & B), in part.

Tragia ramosa of auth., not Torr. (B & B), in part.

Rocky prairies, open ground, and glades. Circumneutral. Central and southern Mo., mostly in the Ozark region.

Tragia cordata Michx.

Tragia macrocarpa Willd. (G), (B & B).

Rocky open woods, thickets, and glades. Oxylophile to circumneutral. Southern Mo.: Oregon, Stone, Taney, Greene, Barry, and McDonald counties.

Phyllanthus carolinensis Walt.

Fields, thickets, and moist alluvial open ground. Circumneutral. Central and southern Mo.: Boone, St. Louis, Franklin, St. Francois, Scott, New Madrid, Dunklin, Ripley, Oregon, Shannon, Phelps, Barry, Vernon, Jasper, Newton, and McDonald counties.

Andrachne phyllanthoides (Nutt.) Muell. Arg.

Rocky ledges, glades, and bald knobs. Calciphile to circumneutral. Southern Mo.: Phelps, Shannon, Texas, Ozark, Christian, Taney, Stone, and Barry counties.

Euphorbia zygophylloides Boiss. Prairie Spurge.

Glades and rocky open ground. Calciphile to circumneutral. Western Mo., scattered: Jackson, Cass, Henry, Barry, and Greene counties.

Euphorbia serpens HBK.

Open ground, usually in rich alluvial soil. Calciphile to circumneutral. Northern and central Mo., scattered: St. Charles, St. Louis, Perry, Miller, Saline, Atchison, Andrew, Platte, Carroll, Jackson, and Henry counties.

Euphorbia glyptosperma Engelm.

Plains, sand bars, and open alluvial ground. Circumneutral. Northwestern and central Mo., scattered: St. Louis, Jefferson, Atchison, Holt, Buchanan, Platte, Clay, and Jackson counties.

Euphorbia nutans Lag. Nodding Spurge.

Euphorbia Preslii Guss. (G).

Thickets, fields, and waste ground. Circumneutral. General and common.

Euphorbia maculata L. Milk Purslane.

Cultivated and waste ground, and in glades. Indifferent. General and common.

Euphorbia humistrata Engelm.

Rocky open ground. Oxylophile. Eastern, central, and southern Mo., scattered: Marion, Lincoln, Boone, Cooper, Cole, Laclede, St. Louis, Jefferson, Franklin, Perry, Pemiscot, New Madrid, Barry, and Jackson counties.

Euphorbia marginata Pursh. Snow-on-the-mountain.

Native on loess hills and plains in northwestern Mo. and introduced in other parts of the state: Atchison, Holt, Jackson, Lafayette, Boone, Greene, Stone, Barton, and Jasper counties.

Euphorbia corollata L. Flowering Spurge.

Prairies, glades, and open rocky woods. Circumneutral. General.

Euphorbia dentata Michx.

Prairies, glades, and waste ground. Circumneutral. General.

Euphorbia heterophylla L. Painted-leaf.

Open rocky woods, thickets, glades, and alluvial soils. Circumneutral. General.

Euphorbia obtusata Pursh. Warty Spurge.

Moist woods and thickets. Circumneutral. East-central and southeastern Mo., mostly in the eastern Ozark region: Boone, St. Louis, Jefferson, Franklin, St. Francois, Washington, and Shannon counties.

Euphorbia dictyosperma Fisch. & Mey.

Tithymalus missouriensis (Norton) Small (B & B), in part.

Tithymalus arkansanus (Engelm. & Gray) Kl. & Gareke (B & B), in part.

Galarrhoeus missouriensis (Norton) Rydb. (S), (R).

Galarrhoeus arkansanus (Engelm. & Gray) Small (S), (R).

Rocky ledges, glades, and open ground. Calciphile to circumneutral. Scattered in western and middle Mo.: Boone, Clay, Jackson, St. Clair, Barry, Jasper, and McDonald counties.

Euphorbia commutata Engelm.

Rich rocky woods, and moist open ground. Circumneutral. East-central and southern Mo.: Montgomery, Warren, St. Louis, Jefferson, Franklin, Ste. Genevieve, St. Francois, Bollinger, Washington, Crawford, Iron, Reynolds, Wayne, Carter, Ripley, Oregon, Shannon, Texas, Dent, Phelps, Maries, Pulaski, Howell, Laclede, Wright, Douglas, Taney, Stone, Barry, and McDonald counties.

EUPHORBIA CYPARISSIAS L. Cypress Spurge.

Commonly planted in cemeteries and sometimes escaping to roadsides and fields. Indifferent. Scattered: Marion, St. Louis, Boone, and Jackson counties.

Fam. CALLITRICHACEAE**Callitricha deflexa** A. Br. var. **Austini** (Engelm.) Hagelm.

Wet or damp open ground, around borders of ponds and swales, fields and waste places, mostly on alluvial soils. Circumneutral to oxyophile. Central and southern Mo.: Boone, Lincoln, St. Louis, Jefferson, Franklin, Ste. Genevieve, Dunklin, Shannon, Phelps, Maries, Texas, Webster, Laclede, Douglas, Greene, Jackson, Henry, Dade, Lawrence, Barton, and Jasper counties.

Callitricha heterophylla Pursh. Water Starwort.

Ponds, bayous, shallow water of slow streams, and in springs and spring branches. Circumneutral. General but scattered: Livingston, Clark, Randolph, Boone, Callaway, St. Louis, Jefferson, Perry, Wayne, Butler, Ripley, Dunklin, Reynolds, Shannon, Iron, Oregon, Howell, Texas, Dent, Crawford,

Pulaski, Dallas, Laclede, Greene, Ozark, Barry, Webster, Jackson, Barton, and Jasper counties.

Fam. ANACARDIACEAE

Rhus glabra L. Smooth Sumach.

Upland prairies, thickets, and borders of woods. Circumneutral. General and probably in every county.

Rhus copallina L.

Prairies, thickets, and open woods. Circumneutral to oxylophile. General, but commonest in southern Mo.

Rhus Toxicodendron L. Poison Ivy.

Thickets and open woods; commonest on alluvial soil and along streams. Circumneutral. General and probably in every county. Very variable in foliage and habit, but the shrubby and scandent forms are not clearly distinguishable.

Rhus quercifolia (Michx.) Steud. Poison Oak.

Rocky open woods and glades. Oxylophile. Southern Mo., rare and scattered: Mississippi and Ozark counties.

Rhus canadensis L. Pole-cat Bush, Fragrant Sumach.

Thickets, glades, and open woods. Circumneutral to calciphile. General.

Rhus canadensis var. *serotina* (Greene) Palmer & Steyermark, comb. nov. Pole-cat Bush.

Schmalzia serotina Greene.

Rhus canadensis var. *trilobata* of auth., not *Rhus trilobata* Nutt. (G).

Thickets, glades, and rocky bluffs. Circumneutral to calciphile. General, but commonest in the Ozark region: Mercer, Putnam, Knox, Shelby, Ralls, Audrain, Boone, St. Francois, Wayne, Butler, Shannon, Texas, Phelps, Pulaski, Laclede, Maries, Cole, Moniteau, Morgan, Miller, Camden, Douglas, Ozark, Taney, Hickory, Polk, Greene, Stone, Jackson, Henry, St. Clair, Cedar, Barry, Jasper, Newton, and McDonald counties.

A stout, much-branched shrub, blooming much later than *R. canadensis*, and after the leaves are half grown. It differs from *Rhus trilobata* Nutt. in its larger, thinner, more obtusely lobed leaflets and larger fruit clusters, as well as in habit of growth.

Rhus canadensis var. *Illinoensis* (Greene) Fernald.

Rocky bluffs and glades. Calciphile to circumneutral. Scattered: Putnam and Barry counties.

Cotinus americanus Nutt. Smoke Tree.

Rhus cotinoides Nutt. (G).

Rocky bluffs, glades, and bald knobs. Calciphile to circumneutral. Southwestern Mo.: Polk, Ozark, Taney, and Stone counties.

Fam. AQUIFOLIACEAE

Ilex decidua Walt. Possum Haw.

Low woods and glades. Calciphile to circumneutral. Eastern, central, and southern Mo.: Lewis, Ralls, Pike, Lincoln, Montgomery, St. Charles, St. Louis,

Jefferson, Franklin, Gasconade, Perry, Cape Girardeau, Bollinger, Scott, Mississippi, New Madrid, Pemiscot, Dunklin, Stoddard, Butler, Wayne, Madison, Iron, Ripley, Oregon, Carter, Shannon, Cole, Miller, Howell, Ozark, Taney, Stone, Barry, St. Clair, Bates, and Jasper counties.

Ilex verticillata (L.) Gray var. *padifolia* (Willd.) T. & G. Black Alder, Winterberry.

Sandy bogs and along rocky streams. Oxylophile. Southeastern Mo.: Iron, Madison, and Reynolds counties.

Ilex opaca Ait. Christmas Holly.

Low wet woods and sandy bogs. Oxylophile. Southeastern Mo.: Cape Girardeau, Mississippi, New Madrid, Dunklin, Stoddard, Butler, and Wayne counties.

Fam. CELASTRACEAE

Erythronium atropurpureum Jacq. Burning Bush, Wahoo.

Thickets, banks of streams, and open woods. Circumneutral. General.

Erythronium americanum L. Strawberry Bush.

Low woods and moist banks of small streams. Oxylophile to circumneutral. Southeastern Mo.: Dunklin, Butler, and Ripley counties.

Erythronium obovatum Nutt. Running Strawberry Bush.

Shaded rocky bluffs. Circumneutral to calciphile. Southern Mo.: Madison, Shannon, Texas, Howell, and Stone counties.

Celastrus scandens L. Bitter-sweet.

Thickets and fence rows. Circumneutral. General.

Fam. STAPHYLEACEAE

Staphylea trifolia L. Bladder-nut, Rattle-box.

Rich woods, thickets, and along bluffs. Circumneutral. General.

Fam. ACERACEAE

Acer saccharum Marsh. Sugar Maple.

Bluffs and woods along streams. Circumneutral. General, but less common in Missouri than the following variety: Daviess, Sullivan, Adair, Saline, Callaway, St. Louis, Washington, Ste. Genevieve, Iron, Scott, Butler, Ozark, Gentry, Clay, Jackson, Benton, Cedar, Greene, Barry, and McDonald counties.

Acer saccharum f. *Rugelii* (Pax) Palmer & Steyermark, comb. nov.

Acer Rugelii Pax.

Acer saccharum var. *Rugelii* (Pax) Rehder.

Occasionally found with the typical form. Circumneutral. Eastern and southern Mo., scattered: St. Louis, Washington, St. Francois, Madison, Iron, Shannon, Wayne, Butler, Texas, and McDonald counties. A leaf form sometimes looking distinct, but inconstant.

Acer saccharum var. *glaucum* (Pax) Sarg. Bot. Gaz. 67: 233. 1919.

In similar situations to the typical form and more common, especially in the Ozark region. Eastern, central, and southern Mo.

Acer saccharum var. *Schneckii* Rehder in Sarg. *Trees & Shrubs* 2: 356. 1913.

Alluvial woods. Circumneutral. Southeastern Mo. and locally in central Mo.: Perry, Cape Girardeau, Bollinger, Madison, Iron, Scott, Mississippi, Stoddard, Dunklin, Wayne, and Benton counties.

Acer floridanum (Chapm.) Pax.

Low woods. Circumneutral to oxylophile. Southeastern Mo.: Wayne and Dunklin counties.

Acer nigrum Marsh. Black Maple.

Upland woods and along small streams. Circumneutral. Northern and central Mo., and occasionally in the southern part of state: Mercer, Grundy, Putnam, Schuyler, Adair, Clark, Knox, Marion, Shelby, Monroe, Randolph, Howard, Boone, Cooper, Moniteau, Montgomery, Warren, St. Louis, Washington, Butler, Taney, Holt, Andrew, Clay, Jackson, and Lafayette counties.

Acer nigrum var. *Palmeri* Sarg. *Jour. Arnold Arb.* 2: 166. 1921.

Occasionally found with the typical form: Clark, Lewis, Grundy, and Jackson counties.

Acer saccharinum L. Silver Maple, Soft Maple.

Low wet woods and alluvial banks of streams. Circumneutral. General and probably in every county.

Acer rubrum L. Red Maple.

Low wet woods, and rocky hillsides and bluffs in the Ozark region. Circumneutral. Central and southern Mo., south and east of a line from St. Louis, Warren, Boone, and Morgan counties to McDonald Co.

Acer rubrum var. *Drummondii* (Hook. & Arn.) T. & G.

Low wet woods and swamps. Circumneutral. Southeastern Mo.: Perry, Cape Girardeau, Scott, Mississippi, New Madrid, Stoddard, Dunklin, Butler, and Ripley counties.

Acer rubrum var. *Drummondii* f. *rotundata* Sarg. *Bot. Gaz.* 67: 237. 1919.

Rarely found with the preceding form. Southeastern Mo., local: Dunklin and Ripley counties.

Acer rubrum var. *tridentatum* Wood.

Sometimes found with the typical form. Circumneutral to oxylophile. Eastern Mo., south of the Missouri River: St. Louis, Jefferson, Franklin, Iron, Stoddard, and Dunklin counties.

Acer Negundo L. Box Elder.

Low alluvial woods. Circumneutral. General.

Acer Negundo var. *texanum* Pax.

Woods along streams, and along rocky bluffs. Circumneutral. Southwestern Mo.: Lawrence, Jasper, and McDonald counties.

Acer Negundo var. *interior* (Britton) Sarg. *Bot. Gaz.* 67: 239. 1919.

Woods along streams. Circumneutral. Northwestern Mo.: Grundy, Platte, Clay, and Jackson counties.

Acer Negundo var. *violaceum* Kirch.

Alluvial ground along streams. Circumneutral. Northern Mo.: Scotland, Schuyler, Adair, Putnam, Sullivan, Linn, Mercer, Grundy, Livingston, Harrison,

Davies, Worth, Gentry, Dekalb, Clinton, Lafayette, Nodaway, Atchison, and Buchanan counties.

Fam. SAPINDACEAE

Sapindus Drummondii Hook. & Arn. Soapberry, Wild China Tree.

Glades, and along the base of bluffs with south or west exposures. Calciphile to circumneutral. Southwestern Mo.: Taney, Stone, Barry, Jasper, Newton, and McDonald counties.

CARDIOSPERMUM HALICACABUM L. Balloon Vine.

Infrequently escaped from gardens to roadsides and waste ground. St. Louis Co.

Fam. HIPPOCASTANACEAE

Aesculus glabra Willd. Ohio Buckeye.

Low alluvial woods along streams. Circumneutral. Scattered: Putnam, Marion, Pike, Jackson, Barry, and McDonald counties. The typical form of the species is quite rare in Mo.

Aesculus glabra var. *Sargentii* Rehder, Jour. Arnold Arb. 7: 241. 1926.

Aesculus glabra var. *arguta* Robinson, in part (G).

Aesculus glabra var. *Buckleyi* Sarg., in part.

Thickets and glades. Circumneutral. General but scattered: Lewis, Marion, Pike, Washington, Perry, Bollinger, St. Clair, Jackson, Cass, Vernon, and Jasper counties. Previously confused with *Aesculus arguta* Buckley, a southwestern species which does not occur in Mo.

Aesculus glabra var. *leucodermis* Sarg. Trees & Shrubs 2: 262. 1913.

Rocky woods and along small rocky streams. Circumneutral. Southern and east-central Mo.: St. Louis, Maries, Dallas, Webster, Douglas, Ozark, and Taney counties.

Aesculus glabra var. *pallida* (Willd.) Kirchner. See Jour. Arnold Arb. 2: 118. 1920.

Open woods, thickets, and low or rocky ground along streams. Circumneutral. General. This is the common variety of buckeye found in the state.

Aesculus discolor Pursh. Red-flowered Buckeye.

Aesculus Pavia of auth., not L. (G), in part (B & B).

Low open woods. Circumneutral. Southeastern Mo.: Cape Girardeau and Dunklin counties.

Aesculus discolor var. *mollis* Sarg. Trees & Shrubs 2: 267. 1913.

Aesculus austrina Small (B & B).

Low open woods and thickets along streams. Southeastern Mo., in the lowlands and locally north to Phelps Co.: Madison, Bollinger, Cape Girardeau, Scott, Stoddard, Dunklin, Butler, Wayne, Ripley, Carter, Oregon, and Phelps counties.

Fam. BALSAMINACEAE

Impatiens pallida Nutt. Pale-flowered Touch-me-not.

Low wet woods, bogs, and springy banks. Circumneutral. General.

Impatiens biflora Walt. Spotted-flowered Touch-me-not.
Similar situations to the last. Circumneutral. General.

IMPATIENS BALSAMINA L.
Cultivated and sometimes escaped. Dunklin Co.

Fam. RHAMNACEAE

Berchemia scandens (Hill) Trelease. Supple-Jack.

Low swampy woods, and ledges and slopes of bald knobs and bluffs with seepage water. Calciphile to circumneutral. Southern Mo.: Mississippi, New Madrid, Pemiscot, Dunklin, Stoddard, Butler, Ripley, Dent, Shannon, Oregon, Texas, Howell, Douglas, Ozark, Taney, Stone, and Barry counties.

Rhamnus lanceolata Pursh.

Glades and thickets. Calciphile. General except in the southeastern lowlands where it is apparently absent.

Rhamnus caroliniana Walt. Indian Cherry.

Rocky open woods, thickets, and glades. Calciphile to circumneutral. Central and southern Mo.: Boone, Moniteau, St. Charles, Osage, Maries, Phelps, Gasconade, Crawford, Franklin, St. Louis, Jefferson, St. Francois, Bollinger, Madison, Iron, Reynolds, Wayne, Dunklin, Ripley, Carter, Oregon, Dent, Shannon, Texas, Howell, Wright, Douglas, Ozark, Taney, Stone, Barry, and Jasper counties.

Rhamnus caroliniana var. *mollis* Fernald, Rh. 12: 79. 1910.

In similar situations to the preceding. East-central and southern Mo.: St. Charles, St. Louis, Jefferson, Franklin, St. Francois, Bollinger, Iron, Wayne, Reynolds, Carter, Ripley, Oregon, Shannon, Crawford, Gasconade, Ozark, Miller, and Hickory counties.

RHAMNUS CATHARTICA L. Buckthorn.

Thickets and waste ground. Introduced in Marion and Boone counties.

Ceanothus americanus L. New Jersey Tea.

Rocky open woods, thickets, and glades. Circumneutral. General but commonest in southern Mo.

Ceanothus ovatus Desf. Red-root.

Rocky woods and glades. Circumneutral to oxylophile. Scattered: Iron, Jackson, St. Clair, Jasper, Newton, and McDonald counties.

Ceanothus ovatus var. *pubescens* T. & G.

Rocky prairies, plains, and loess hills. Calciphile to circumneutral. General.

Fam. VITACEAE

Parthenocissus quinquefolia (L.) Planch. Virginia Creeper.

Pseuderis quinquefolia (L.) Greene (G).

Open woods, thickets, fence rows, and along rocky bluffs. Circumneutral. General and probably in every county.

Parthenocissus quinquefolia var. *hirsuta* (Donn) Planch.

Pseuderis quinquefolia var. *hirsuta* (Donn) Rehder (G).

Rocky open woods, thickets, and glades. Circumneutral. General but scat-

tered: Adair, Monroe, Ralls, Boone, Iron, Scott, Ripley, Dallas, Pulaski, Atchison, Gentry, Jackson, Johnson, Jasper, and Newton counties.

Parthenocissus quinquefolia var. *Saint-Paulii* (Koehne & Graebn.) Rehder.

Pseuderis quinquefolia var. *Saint-Paulii* (Koehne & Graebn.) Rehder (G).

Rocky open woods, thickets, and bluffs. Circumneutral. Southern and western Mo.: Mississippi, Ripley, Pulaski, Stone, Jackson, Cedar, Jasper, Newton, and McDonald counties.

Parthenocissus vitacea (Knerr) Hitchc.

Pseuderis vitacea (Knerr) Greene (G).

Thickets, open woods, and along bluffs and fence rows. Circumneutral. General but scattered: Clark, Atchison, Holt, Jackson, Cooper, Christian, Stone, Jasper, and Newton counties.

Ampelopsis cordata Michx. Raccoon Grape, False Grape.

Cissus Ampelopsis Pers. (G).

Open woods, thickets, and fence rows. Circumneutral. General.

Ampelopsis arborea (L.) Rusby. Pepper-vine.

Cissus arborea (L.) Des Moulins (G).

Low open woods and thickets. Circumneutral. Eastern Mo., south of the Missouri River: St. Louis, Jefferson, St. Francois, Perry, Cape Girardeau, Mississippi, New Madrid, Pemiscot, Dunklin, and Butler counties.

Cissus incisa (Nutt.) Des Moulins.

Rocky ledges of bluffs with south or west exposure. Calciphile. Southwestern Mo.: Taney and McDonald counties.

Vitis labrusca L. Northern Fox Grape.

Cultivated and occasionally escaped into thickets and waste ground. Scattered: St. Louis and Jasper counties.

Vitis aestivalis Michx. Summer Grape.

Upland woods and thickets. Circumneutral to oxylophile. General.

Vitis Linneaeum Buckley var. *gianca* Munson. See Bailey, Gent. Herb. 3: 193. 1934. Post Oak Grape.

Rocky upland woods, glades, and thickets. Circumneutral to oxylophile. Central and southern Mo., mostly in the Ozark region: Boone, St. Louis, Scott, Stoddard, Dunklin, Wayne, Iron, Reynolds, Shannon, Howell, Texas, Phelps, Maries, Laclede, Dallas, Douglas, Taney, Stone, Barry, Polk, Hickory, Jackson, Cedar, Barry, Vernon, Jasper, Newton, and McDonald counties. This has sometimes been confused with *Vitis Leontiana*, or *V. bicolor* as it was formerly called.

Vitis cinerea Engelm. Winter Grape, Bird Grape.

Low alluvial woods, thickets, and fence rows. Circumneutral. General and common.

Vitis cinerea var. *canescens* (Engelm.) Bailey.

Occasionally found with the typical form. Scattered: St. Louis, Boone, and Jasper counties.

Vitis cordifolia Michx. Frost Grape.

Alluvial woods and thickets along streams. Circumneutral. General and common.

Vitis cordifolia var. *foetida* Engelm.

Growing with the typical form. Local: St. Louis Co.

Vitis vulpina L. River-bank Grape.

Alluvial woods, thickets, and banks of streams. Circumneutral. Northern and central Mo., and locally south to Madison Co.: Pike, St. Charles, St. Louis, Madison, Montgomery, Scotland, Knox, Shelby, Monroe, Audrain, Callaway, Boone, Warren, Cooper, Morgan, Pettis, Schuyler, Adair, Putnam, Sullivan, Linn, Mercer, Grundy, Livingston, Carroll, Harrison, Daviess, Caldwell, Worth, Gentry, DeKalb, Clinton, Atchison, Nodaway, Holt, Andrew, Buchanan, Platte, Jackson, Bates, and Vernon counties.

Vitis vulpina var. *praecox* Bailey.

In similar situations to the typical form. Circumneutral. Central Mo.: St. Louis, St. Charles, Boone, Carroll, Clay, and Jackson counties.

Vitis palmata Vahl. Red Grape.

Low wet woods and borders of swamps and bayous. Circumneutral. East-central and southeastern Mo.: St. Charles, St. Louis, Jefferson, Bollinger, New Madrid, Pemiscot, Dunklin, and Butler counties.

Vitis rupestris Scheele. Sand Grape.

Rocky banks and beds of streams. Circumneutral to oxylophile. Central and southern Mo.: Montgomery, Franklin, Jefferson, Washington, Madison, Iron, Reynolds, Carter, Oregon, Shannon, Howell, Texas, Phelps, Pulaski, Laclede, Dallas, Miller, Morgan, Stone, Barry, Jasper, Newton, and McDonald counties.

Vitis rupestris var. *dissecta* Eggert.

Rocky ground along streams. Oxylophile. Eastern Mo., south of the Missouri River: St. Louis, Jefferson, and Carter counties.

Vitis rotundifolia Michx. Muscadine.

Low open woods and borders of swamps and bayous. Oxylophile. South-eastern Mo.: Madison, Pemiscot, and Dunklin counties.

Fam. TILIACEAE

Tilia glabra Vent. See Bot. Gaz. 66: 424. 1918. Linn, Linden.

Tilia americana of auth., and perhaps L., in part (G), (B & B).

Woods and bluffs along streams. Circumneutral. General, but apparently absent from some of the southern and western counties.

Tilia floridana Ashe.

Bluffs and rocky woods along streams. Circumneutral. Southern Mo. and along the larger streams to the northern boundary: Clark, Ralls, St. Louis, Ste. Genevieve, Madison, Iron, Wayne, Butler, Carter, Shannon, Douglas, Ozark, Taney, Greene, Stone, Barry, Holt, Jackson, Dade, Newton, and McDonald counties.

Tilia floridana var. *hypoleuca* Sarg. Bot. Gaz. 66: 436. 1918.

Rocky woods and bluffs. Circumneutral. Southern Mo.: Ozark, Taney, Stone, and Barry counties. Sometimes looks very distinct, but intergrades with the typical form.

Tilia heterophylla Vent. var. *Michauxii* (Nutt.) Sarg. Bot. Gaz. 66: 506. 1918.

Tilia Michauxii Nutt. (G), (B & B).

Rocky woods and bluffs. Circumneutral. Eastern Mo.: Marion, St. Francois, and Butler counties.

Fam. MALVACEAE

ABUTILON THEOPHRASTI Medic. Velvet Leaf.

Cultivated fields and waste ground. Indifferent. General.

MALVASTRUM ANGUSTUM Gray. Yellow False Mallow.

Rocky prairies and glades. Calciphile to circumneutral. Central, southern, and western Mo.: Montgomery, Lincoln, St. Louis, Jefferson, Franklin, Washington, Shannon, Ozark, Taney, Stone, Greene, Polk, Daviess, Jackson, Cass, Henry, St. Clair, and Jasper counties.

SIDA ELLIOTTII T. & G.

Sandy open ground. Oxylophile. Southeastern Mo.: Scott, Stoddard, and Dunklin counties.

SIDA SPINOSA L.

Cultivated and waste ground. Circumneutral. General.

ANODA CRISTATA Schlecht. var. *BRACHYANTHA* (Reichb.) Hochr. Ann. Conserv. & Jard. Bot. Genève 20: 47. 1916.

Introduced in waste ground. McDonald Co.

ALTHEA ROSEA (L.) Cav. Hollyhock.

Cultivated in gardens and sometimes escaping to roadsides, fields, and waste ground. Boone, Saline, and Greene counties.

MALVA ROTUNDIFOLIA L. Common Mallow, Cheeses.

Fields, lawns, and waste ground. Indifferent. General.

MALVA PARVIFLORA L.

Fields and waste ground. Indifferent. Scattered: Atchison and Jackson counties.

MALVA MOSCHATA L. Musk Mallow.

Fields and waste ground. Indifferent. Scattered: Boone Co.

MALVA SYLVESTRIS L. High Mallow.

Roadsides and waste ground. Indifferent. Scattered: Warren, Jackson, Greene, and Stone counties.

MALVA CRISPAA L. Curled Mallow.

Waste ground. Indifferent. Scattered: Osage and Jackson counties, and also reported from Greene Co.

CALLIRHOE TRIANGULATA (Leavenworth) Gray. Clustered Poppy Mallow.

Rocky open woods, prairies, and glades. Circumneutral. East-central and southeastern Mo.: St. Louis, Franklin, Scott, and Mississippi counties.

CALLIRHOE INVOLUCRATA (T. & G.) Gray. Wine Cups, Purple Poppy Mallow.

Upland prairies, fields, and roadsides. Circumneutral to oxylophile. Scattered: Putnam, St. Louis, Linn, Boone, Jackson, and Taney counties.

CALLIRHOE PAPAVER (Cav.) Gray.

Rocky prairies and glades. Calciphile to circumneutral. Scattered: Pulaski, Pettis, Jackson, and Barry counties.

Callirhoe Bushii Fernald, Rh. 11: 51. 1909.

Rocky open woods and glades. Calciphile. Southwestern Mo.: Taney and Barry counties.

Callirhoe digitata Nutt. Fringed Poppy Mallow.

Rocky prairies, meadows, and glades. Circumneutral to oxylophile. Central and southwestern Mo.: Boone, Clay, Polk, Greene, Christian, Taney, Stone, Dade, Lawrence, Barry, Barton, Jasper, Newton, and McDonald counties. Perhaps introduced in central Mo.

Callirhoe alcaeoides (Michx.) Gray. Poppy Mallow.

Prairies, open woods, and waste ground. Circumneutral. Scattered: Shelby, Boone, St. Louis, Dent, Clay, Jackson, Greene, and Jasper counties.

Hibiscus lasiocarpus Cav.

Low open woods, and borders of sloughs, ponds, and bayous. Circumneutral. Central and southern Mo.: Platte, Lincoln, St. Charles, St. Louis, Jefferson, Franklin, Cape Girardeau, Perry, Scott, Mississippi, New Madrid, Pemiscot, Dunklin, Butler, Ripley, Wayne, Dent, Shannon, Pulaski, Oregon, Howell, Gasconade, Jasper, and Newton counties. This has sometimes been confused with *Hibiscus incanus* which is not known to occur in Mo.

Hibiscus militaris Cav.

Prairie sloughs, and borders of ponds and slow streams. Circumneutral. General.

HIBISCUS TRIONUM L. Flower-of-an-hour.

Fields, roadsides, waste and cultivated ground. Indifferent. General, but commonest in northern and central Mo.

HIBISCUS SYRIACUS L. Rose of Sharon, Shrubby Althea.

Commonly planted and rarely escaped to thickets and roadsides. Jasper Co.

Fam. HYPERICACEAE

Ascyrum hypericoides L. St. Andrew's Cross.

Rocky open woods. Oxylophile to circumneutral. East-central and southern Mo., mainly in the Ozark region.

Hypericum Ascyron L. Great St. John's wort.

Moist open woods and thickets. Oxylophile to circumneutral. Northern and central Mo., scattered: Clark, Atchison, and Jackson counties.

Hypericum perforatum L. St. John's-wort.

Rocky pasture and waste ground. Circumneutral to oxylophile. General but scattered: Mercer, Clark, Shelby, Marion, Ralls, Boone, St. Louis, Jefferson, Franklin, Dunklin, Dent, Shannon, Texas, Laclede, Clay, Jackson, and Greene counties.

Hypericum punctatum Lam.

Moist open woods, thickets, and prairie swales. Circumneutral. General.

Hypericum pseudomaculatum Bush.

Rocky prairies and glades. Oxylophile to circumneutral. Southern Mo.: Phelps, Shannon, Ozark, Barry, Jasper, Newton, and McDonald counties.

***Hypericum densiflorum* Pursh.**

Sandy open ground and glades. Oxyophile. Southeastern Mo., scattered: Madison and Ripley counties.

***Hypericum prolificum* L. Shrubby St. John's-wort.**

Rocky ground along streams and bluffs. Circumneutral to oxyophile. Eastern, middle, and southern Mo., and occasional in the western counties.

***Hypericum cistifolium* Lam.**

Rocky prairies, open woods, and glades. Oxyophile to circumneutral. General.

***Hypericum mutilum* L. Dwarf St. John's-wort.**

Open woods, prairie swales, and borders of ponds and ditches. Circumneutral. Eastern, central, and southern Mo.

***Hypericum gymnanthum* Engelm. & Gray.**

Moist, sandy, open ground. Oxyophile. Southern Mo., scattered: Mississippi, Shannon, Greene, and McDonald counties.

***Hypericum gentianoides* (L.) BSP. Pine-weed.**

Sterile open ground, prairies, and glades. Oxyophile, usually on siliceous or granitic rocks. East-central and southern Mo.: Warren, Lincoln, St. Charles, Jefferson, Franklin, Washington, St. Francois, Ste. Genevieve, Perry, Madison, Iron, Dunklin, Ripley, Reynolds, Shannon, Texas, Dent, Crawford, Gasconade, Maries, Pulaski, Greene, Stone, Cedar, Dade, Barton, Jasper, and McDonald counties.

***Hypericum Drummondii* (Grev. & Hook.) T. & G.**

Fields, prairie swales, barrens, and open woods. Oxyophile. Eastern, central, and southern Mo.: Knox, Marion, Randolph, Boone, Montgomery, Lincoln, St. Charles, St. Louis, Jefferson, St. Francois, Ste. Genevieve, Perry, Madison, Iron, Wayne, Stoddard, Dunklin, Butler, Franklin, Gasconade, Crawford, Maries, Phelps, Dent, Shannon, Texas, Howell, Ozark, Polk, Greene, St. Clair, Dade, Barry, Vernon, Barton, Jasper, Newton, and McDonald counties.

***Hypericum lobocarpum* Gattner.**

Sandy open ground. Oxyophile. Southeastern Mo.: Dunklin Co.

***Hypericum petiolatum* Walt.**

Low wet woods, swamps, bayous, and wet ledges along sandstone bluffs. Oxyophile to circumneutral. Southeastern Mo.: Ste. Genevieve, Bollinger, Mississippi, New Madrid, Dunklin, Butler, and Ripley counties.

***Hypericum virginicum* L.**

Low wet woods, swamps, and bayous. Circumneutral. Southeastern Mo.: Dunklin and Butler counties.

Fam. ELATINACEAE***Elatine americana* (Pursh) Arn. See Rh. 19: 12. 1917. Waterwort.**

Ditches and borders of sloughs and swales. Circumneutral. Western Mo., local: Jackson Co.

***Bergia texana* (Hook.) Seub.**

Sand bars of the Missouri River. Oxyophile to circumneutral. Western Mo., local: Jackson Co.

Fam. TAMARICACEAE

TAMARIX GALLICA L. Tamarisk.

Recently introduced along sand bars and banks of the Missouri and Mississippi Rivers. Oxyophile to circumneutral. Northwestern and central Mo.: St. Louis, Warren, Carroll, Jackson, and Holt counties.

Fam. CISTACEAE

Helianthemum Bicknellii Fernald, Rh. 21: 36. 1919. Rock Rose.

Helianthemum majus Bicknell, not BSP. (G).

Crocanthemum majus (L.) Britton (B & B).

Rocky prairies and dry open woods. Oxyophile. General: St. Louis, Jefferson, Dent, Shannon, Crawford, Oregon, Texas, Howell, Shelby, Putnam, Sullivan, Linn, Boone, Mercer, Jackson, Greene, Barry, Jasper, and McDonald counties. This has been confused with *Helianthemum canadense* which is not known to occur in Mo.

Lechea villosa Ell. Pinweed.

Lechea major Michx., not L. (B & B).

Rocky open woods and glades. Oxyophile. Eastern, central, and southern Mo.: Knox, Shelby, Boone, Lincoln, Warren, St. Charles, St. Louis, Jefferson, Perry, Iron, Madison, Bollinger, Mississippi, Dunklin, Butler, Ripley, Oregon, Howell, Carter, Shannon, Texas, Reynolds, Dent, Crawford, Phelps, Camden, Polk, Greene, Taney, Barry, Jackson, Vernon, Jasper, Newton, and McDonald counties.

Lechea tenuifolia Michx. Pinweed.

Rocky open woods and glades. Oxyophile. General, except in the Southeastern lowlands.

Fam. VIOLACEAE

Hybanthus concolor (Forster) Spreng. Green Violet.

Rich woods and along shaded bluffs. Circumneutral to calciphile. General.

Viola pedata L. Bird-foot Violet, Wild Pansy.

Rocky open woods and prairies. Oxyophile. General, but commonest in east-central and southern Mo.

Viola pedata L. var. *lineariloba* DC.

In similar situations to the typical form and much commoner in most parts of the state.

Viola missouriensis Greene.

Low woods, thickets, and moist alluvial ground along streams. Circumneutral. General but scattered: Clark, Adair, Howard, Boone, Audrain, St. Charles, Gasconade, Franklin, St. Louis, Jefferson, Ste. Genevieve, Mississippi, Dunklin, Butler, Wayne, Madison, Ripley, Carter, Moniteau, Dallas, Hickory, Polk, Howell, Greene, Stone, Linn, Grundy, Daviess, Livingston, Platte, Clay, Jackson, Henry, Bates, Jasper, and Newton counties.

Viola papilionacea Pursh. See Bull. Vt. Agr. Exp. Sta. 224: 22. 1921.

Viola pratina Greene.

Moist meadows, thickets, open woods, and waste or alluvial ground. Circum-

neutral. General. This species has often been confused with *Viola cucullata* which is not known in Missouri.

Viola triloba Schwein.

Rocky or dry open woods and thickets. Oxylophile to circumneutral. Central and southern Mo. north to St. Louis, Warren, Boone, and Jackson counties. This species and the following variety have often been confused with *Viola palmata* which is not known to occur in Missouri.

Viola triloba var. *dilatata* (Ell.) Brainerd, Bull. Torr. Bot. Club 37: 587. 1910.

Similar situations to the preceding and often found with it. Oxylophile to circumneutral. Central and southern Mo. south and east of a line drawn from St. Louis, Warren, Boone, Moniteau, and Polk counties to Jasper Co., and locally northwest in Atchison Co., northwestern Mo.

Viola Lovelliana Brainerd, Bull. Torr. Bot. Club 37: 526. 1910.

Moist rocky ground. Circumneutral. Southern Mo., local: Ozark Co.

Viola sororia Willd.

Open woods, rocky or dry slopes, and thickets. Oxylophile to circumneutral. General.

Viola sagittata Ait.

Upland prairies, open banks, and glades. Oxylophile to circumneutral. General, but scattered: Putnam, Schuyler, Adair, Macon, Scotland, Knox, Shelby, Monroe, Audrain, Marion, Ralls, Pike, Randolph, Boone, Callaway, Franklin, Crawford, Washington, Iron, Madison, Carter, Phelps, Moniteau, Greene, Henry, Vernon, Barton, Jasper, Newton, Barry, and McDonald counties. A pubescent form of this species (*V. subseagittata* Greene) has sometimes been confused with *Viola fimbriatula* which is not known in Missouri.

Viola emarginata (Nutt.) LeConte.

Prairies, glades, and open banks. Oxylophile to circumneutral. East-central and southern Mo.: St. Louis, Madison, Iron, Reynolds, Shannon, Oregon, Moniteau, Jasper, Newton, and McDonald counties.

Viola pedatifida G. Don. Prairie Violet.

Prairies, borders of woods, and loess hills. Circumneutral. Northern, central, and western Mo.: Putnam, Schuyler, Scotland, Adair, Knox, St. Louis, Daviess, Atchison, Pettis, Cedar, Greene, Barry, Jackson, Cass, and Jasper counties.

Viola viarum Pollard.

Moist woods, banks of streams, open ground along roads, and crevices of rocks along streams. Circumneutral. General but scattered: Schuyler, Sullivan, St. Louis, St. Francois, Crawford, Shannon, Oregon, Ozark, Pulaski, Laclede, Texas, Saline, Daviess, Worth, Atchison, Jackson, Henry, Hickory, Stone, Barry, and Jasper counties.

Viola lanceolata L. Narrow-leaved Violet.

Moist sandy prairies, swampy open ground, and moist hummocks. Oxylophile. Southeastern Mo.: Mississippi and Dent counties.

Viola pallens (Banks) Brainerd. Northern White Violet.

Banks of streams and moist ledges along bluffs of LaMotte sandstone. Oxylophile. Southeastern Mo., local: Ste. Genevieve Co.

Viola pubescens Ait. Yellow Violet.

Rich woods and thickets. Circumneutral. Northern and eastern Mo.: Harrison, Mercer, Putnam, Sullivan, Schuyler, Shelby, Ralls, St. Louis, St. Francois, Stoddard, and Butler counties. This has frequently been confused with the next following.

Viola eriocarpa Schwein. See Rh. 23: 275. 1922; also Bull. Torr. Bot. Club 38: 194. 1911.*Viola scabriuscula* Schwein., in part (G), (B & B).

Rich, alluvial or rocky woods. Circumneutral. General.

Viola eriocarpa var. *leptocarpa* Fernald & Wiegand, Rh. 23: 275. 1922.*Viola scabriuscula* Schwein., in part (G), (B & B).

Rich, alluvial or rocky woods. Circumneutral. General and commoner than the species.

Viola striata Ait. Pale Violet.

Moist rich or rocky woods, and alluvial ground along streams. Circumneutral. Eastern, middle, and southern Mo. south and east of a line drawn from Shelby, Randolph, Boone, and Hickory counties to Barry Co.

Viola Raddei Greene. Wild Pansy, Johnny Jump-up.

Prairies, glades, roadsides, and waste ground. Indifferent. General and common.

VIOLA ARvensis Murr.

Fields, roadsides, and waste ground. Indifferent. Introduced in Johnson Co.

Viola papilionacea × *pedatifida* Brainerd, Bull. Torr. Bot. Club 40: 249, pl. 15. 1913.

Prairies and thickets. Western Mo., scattered: Jackson, Pettis, and Jasper counties.

Viola papilionacea × *triloba* Brainerd, Bull. Torr. Bot. Club 39: 90. 1912.

Woods, thickets, and open banks. Jasper Co.

Viola pedatifida × *sagittata* Brainerd, Bull. Torr. Bot. Club 40: 252, pl. 16. 1913.

Prairies. Jasper Co.

Viola pedatifida × *sororia* Brainerd, Bull. Torr. Bot. Club 40: 253, pl. 17. 1913.

Loess hills. Atchison Co.

Viola sororia × *triloba* Brainerd, Bull. Torr. Bot. Club 39: 92. 1912.

Open woods and thickets. Southern Mo., scattered: Oregon, Greene, and Jasper counties.

Viola emarginata × *sororia* Dowell, Proc. Staten Isl. Assoc. 3: 162. 1912.

Prairies, thickets, and open banks. Jasper Co.

Viola sagittata × *sororia* Brainerd, Bull. Vt. Agr. Exp. Sta. 239: 193. 1924.

Thickets and open banks. Jasper Co.

Viola papilionacea × *sororia* Brainerd, Bull. Torr. Bot. Club 37: 178. 1910.

Moist woods, thickets, and open ground along roads and banks. Commonly found throughout the state where the parent species occur.

Viola missouriensis × *sororia*.

Low open ground and banks. Sometimes occurring with the parent species.

Fam. PASSIFLORACEAE

Passiflora lutea L.

Thickets and low or open rocky woods. Circumneutral. East-central and southern Mo. south and east of a line drawn from St. Charles, Warren, Montgomery, Morgan, Hickory, and Cedar counties to Jasper Co.

Passiflora incarnata L. Maypops, Passion Flower.

Fields, thickets, low alluvial woods, and along railroads and roadsides. Circumneutral to oxylophile. Southern Mo.: Scott, Mississippi, New Madrid, Stoddard, Pemiscot, Dunklin, Butler, Oregon, Greene, Lawrence, Barry, Jasper, and McDonald counties. Probably native in southeastern Mo. and introduced in some of the southwestern counties.

Fam. LOASACEAE

Mentzelia oligosperma Nutt. Stick Leaf.

Exposed ledges along bluffs, glades, rocky open soil, and railway embankments. Calciphile to circumneutral. Central and southern Mo.: St. Charles, St. Louis, Phelps, Pulaski, Boone, Saline, Jackson, Henry, Greene, Jasper, and McDonald counties.

Fam. CACTACEAE

Opuntia Rafinesquii Engelm. Prickly Pear.

Rocky prairies, glades, and open woods. Circumneutral to calciphile. Southern and central Mo. south of a line drawn from Ralls, Monroe, Boone, and Saline counties to Caldwell Co.

Opuntia macrorhiza Engelm.

Rocky ledges and glades. Oxylophile. Southwestern Mo.: Jasper, Newton, McDonald, and Barry counties.

Mamillaria missouriensis Sweet var. *caespitosa* (Engelm.) Wats. Nipple Cactus.

Rocky bluffs. Circumneutral to calciphile. Found in Pulaski Co., where perhaps native.

Fam. THYMELAEACEAE

Dirca palustris L. Leatherwood.

Shaded rocky bluffs, banks of streams, and low alluvial woods. Oxylophile to circumneutral. Central and southern Mo., and locally in extreme northern Mo.: Mercer, Callaway, Warren, Perry, Bollinger, Wayne, Madison, Iron, Reynolds, Shannon, Oregon, Washington, Crawford, Phelps, Maries, Osage, Morgan, Benton, Laclede, Texas, Taney, Stone, and Barry counties.

Fam. ELAEAGNACEAE

Elaeagnus angustifolia L. Russian Olive.

Cultivated and rarely escaped to thickets and waste ground. Pike and St. Louis counties.

Fam. LYTHRACEAE

Peplis diandra Nutt. Water Purslane.

Didiplis diandra (Nutt.) Wood (G), (B & B).

Borders of ponds, sloughs, and ditches. Circumneutral. General but scattered: Livingston, Sullivan, Shelby, Audrain, St. Charles, St. Louis, Jefferson, Butler, Carter, Oregon, Greene, Clay, Jackson, and Jasper counties.

Rotala ramosior (L.) Koehne var. *interior* Fernald & Griscom, Rh. 37: 169. 1935.

Tooth-cup.

Rotala ramosior of auth. (G), (B & B), in part.

Wet prairies, ditches, sloughs, and margins of ponds and streams. Circumneutral. Central and southern Mo.: Randolph, Boone, Lincoln, St. Charles, Gasconade, St. Louis, Jefferson, Perry, Wayne, New Madrid, Butler, Dunklin, Iron, Madison, Dent, Laclede, Howell, Ozark, Taney, Cedar, Greene, Jackson, Barton, Jasper, Newton, and McDonald counties.

Ammannia coccinea Rottb. Tooth-cup.

Ditches, sloughs, and muddy margins of ponds and slow streams. Circumneutral. General.

Ammannia auriculata Willd.

Similar situations to the preceding. Circumneutral. Western Mo., south of the Missouri River: Jackson, Taney, Jasper, and McDonald counties.

Lythrum alatum Pursh. Winged Loosestrife.

Wet prairies and alluvial margins of small streams and ponds. Circumneutral. General.

LYTHRUM SALICARIA L. Purple Loosestrife.

Introduced in waste ground. Franklin Co.

Cuphea petiolata (L.) Koehne.

Open woods, thickets, prairies, and glades. Circumneutral. General.

Fam. MELASTOMACEAE

Rhexia mariana L. var. *leiosperma* Fernald & Griscom, Rh. 37: 171. 1935.
Meadow Beauty.

Moist sandy open ground, and borders of bogs. Oxyophile. Southeastern Mo.: Mississippi, Stoddard, Dunklin, Butler, and Ripley counties.

Rhexia virginica L. Deer-grass, Meadow Beauty.

Moist open ground and borders of bogs. Oxyophile. Southeastern Mo.: St. Francois, Iron, Dunklin, Butler, and Dent counties.

Rhexia interior Pennell.

Rhexia latifolia Bush, not Aubl. See Rh. 13: 167. 1911.

Rhexia virginica of auth., not L. (B & B), in part.

Moist sandy soil along prairie streams. Oxyophile. Southwestern Mo.: Greene, Lawrence, Vernon, Barton, and Jasper counties.

Fam. ONAGRACEAE

Jussiaea decurrens (Walt.) DC. Primrose-willow.

Swamps, bayous, and still streams. Circumneutral. Southern Mo.: Wayne, Scott, Mississippi, New Madrid, Pemiscot, Dunklin, Butler, and Barry counties.

Jussiaea diffusa Forsk. Floating Primrose-willow.

Sloughs, ponds, and slow streams; in shallow water or on mud. Circumneutral. General.

Ludwigia alternifolia L. Seed-box.

Prairie swales, low open woods, and borders of streams. Circumneutral. General.

Ludwigia polycarpa Short & Peter. False Loosestrife.

Wet open woods and along prairie streams and sloughs. Circumneutral. General but scattered: Putnam, Clark, Shelby, Dekalb, Randolph, Boone, St. Louis, Jefferson, Iron, Ripley, Ray, Jackson, and Jasper counties.

Ludwigia palustris (L.) Ell. var. *americana* (DC.) Fernald & Griscom, Rh. 37: 176. 1935.

Ludwigia palustris of auth. in part (G), (B & B).

Low wet woods, and borders of slow streams, ponds, and ditches. Circumneutral. General.

Ludwigia natans Ell. var. *typica* Fernald & Griscom, Rh. 37: 175. 1935.

Border of pond. Southwestern Mo., local: Greene Co.

Ludwigia glandulosa Walt.

Low wet woods, swamps, and bayous. Circumneutral to oxylophile. Southeastern Mo.: Bollinger, Stoddard, New Madrid, Pemiscot, Dunklin, Butler, and Ripley counties.

Epilobium coloratum Muhl. Willow Herb.

Bogs and wet ground along small streams. Circumneutral. General but scattered: Putnam, Boone, St. Louis, Jefferson, Franklin, Ste. Genevieve, Washington, Iron, Shannon, Dent, Phelps, Greene, Taney, Stone, Barry, Jackson, Newton, and McDonald counties.

Epilobium densum Raf.

Bogs and wet ground along streams. Circumneutral. Local: Jackson Co.

Oenothera rhombipetala Nutt. Evening Primrose.

Sandy open ground. Oxylophile. Eastern and central Mo., scattered: Clark, Ralls, St. Louis, Phelps, and Jackson counties.

Oenothera parviflora L. See Rh. 26: 4. 1924.

Oenothera muricata L. (G), (B & B).

Open woods, thickets, prairies, and waste ground. Circumneutral. General and common.

Oenothera strigosa (Rydb.) Mack. & Bush.

Oenothera muricata var. *caneescens* (T. & G.) Robinson (G).

Fields, prairies, and waste ground. Circumneutral. General: Putnam, Adair, Jefferson, Phelps, Scotland, Worth, Gentry, Dekalb, Grundy, Randolph, Jackson, Henry, and Jasper counties.

Oenothera laciniata Hill.

Fields, prairies, roadsides, and waste ground. Circumneutral. General.

Oenothera laciniata var. *grandiflora* (Wats.) Robinson.

Occasionally found with the typical form. Scattered: Jackson and Jasper counties.

Oenothera linifolia Nutt. Sundrops.

Fields, prairies, and glades. Oxylophile. Central and southern Mo.: Lincoln, Montgomery, Warren, St. Charles, St. Louis, Jefferson, Franklin, Washington,

Crawford, St. Francois, Ste. Genevieve, Perry, Madison, Bollinger, Iron, Wayne, Dunklin, Ripley, Carter, Reynolds, Shannon, Texas, Dent, Oregon, Gasconade, Maries, Phelps, Pulaski, Laclede, St. Clair, Greene, Lawrence, Jackson, Vernon, Barton, Jasper, and Newton counties.

Oenothera fruticosa L. See Rh. 20: 51. 1918. Sundrops.

Oenothera linearis Michx. (G).

Kneiffia linearis (Michx.) Spach (B & B).

Rocky and sandy open ground. Oxylophile. Southern Mo., scattered: Jefferson, Shannon, and Barry counties.

Oenothera hybrida Michx. See Rh. 24: 177. 1922.

Oenothera fruticosa var. *hirsuta* Nutt. (G).

Rocky and sandy open ground. Oxylophile. Western Mo., local: Henry Co.

Oenothera pratensis (Small) Robinson.

Kneiffia pratensis Small (B & B).

Moist alluvial ground. Circumneutral. Eastern and southern Mo.: Marion, St. Louis, Jefferson, Wayne, Phelps, and Howell counties.

Oenothera speciosa Nutt. White Evening Primrose.

Hartmannia speciosa (Nutt.) Small (B & B).

Limestone glades and prairies. Calciphile. General but scattered: Adair, Boone, St. Louis, Crawford, Dent, Wayne, Butler, Wright, Greene, Jackson, Johnson, Henry, St. Clair, Vernon, Jasper, and Newton counties.

Oenothera triloba Nutt.

Lavauxia triloba (Nutt.) Spach (B & B).

Limestone glades and prairies. Calciphile. Southern Mo., scattered: Iron and McDonald counties, and also introduced in Benton and Jasper counties.

Oenothera missouriensis Sims. Glade Lily, Missouri Primrose.

Megapterium missouriense (Sims) Spach (B & B).

Glades, bald knobs, and rocky prairies. Calciphile. Central and southern Mo.: St. Louis, Jefferson, Franklin, Washington, Crawford, Ste. Genevieve, Stoddard, Shannon, Texas, Phelps, Maries, Pulaski, Miller, Laclede, Camden, Dallas, Cedar, Wright, Webster, Greene, Douglas, Ozark, Taney, Stone, Bates, Lawrence, and Barry counties. The specific name was originally spelled *missouriensis* by the author.

Oenothera serrulata Nutt.

Meriolix serrulata (Nutt.) Walp. (B & B).

Loess hills, fields, and prairies. Circumneutral to calciphile. Northern and central Mo.: Marion, St. Louis, Boone, Atchison, Holt, and Jackson counties.

Oenothera biennis L.

Fields, thickets, and waste ground. Circumneutral. General and common.

Gaura biennis L.

Rocky prairies, thickets, and glades. Circumneutral. General.

Gaura filipes Spach.

Rocky open woods. Circumneutral. Southern Mo., local: Phelps Co.

Gaura parviflora Dougl.

Prairies, waste ground, and along railroads and roadsides. Circumneutral. Northern, central, and western Mo., scattered: Shelby, Marion, St. Louis, Boone,

Atchison, Holt, Andrew, Platte, Clay, Jackson, Carroll, and Jasper counties.
Introduced from farther west except perhaps in northwestern Mo.

Gaura parviflora var. *lachnocarpa* Weatherby, Rh. 27: 14. 1925.

Occasionally found with the typical form. Jackson and Jasper counties.
Gaura coccinea Pursh.

Plains and loess hills. Calciphile. Northwestern Mo.: Atchison and Holt counties, and also introduced along railroads in Clay and Jackson counties.

Stenosiphon limifolius (Nutt.) Britton.

Bald knobs and glades. Calciphile. Southern Mo.: Ozark and Taney counties.

Circaea latifolia Hill. See Rh. 19: 87. 1917. Enchanter's Nightshade.

Ciraea lutetiana of Am. auth., not L. (G), (B & B).
Rich woods and thickets. Circumneutral. General.

Fam. HALORAGIDACEAE

MYRIOPHYLLUM PROSERPINACOIDES Gill. Water Feather.

Shallow water and muddy margins of ponds. Circumneutral. Scattered: Crawford, Texas, and Jasper counties. A Chilean species often cultivated in aquaria and pools.

Myriophyllum scabratum Michx.

Slow streams, sloughs, ponds, and ditches. Circumneutral. General but scattered: Scotland, Monroe, Pike, St. Charles, St. Louis, Butler, Carter, Howell, Jackson, and Jasper counties.

Myriophyllum heterophyllum Michx. Water Milfoil.

Slow streams, sloughs, ponds, and spring branches. Circumneutral. East-central and southern Mo.: St. Charles, St. Louis, Jefferson, Perry, Wayne, Dunklin, Butler, Ripley, Carter, Oregon, Crawford, Phelps, Pulaski, Texas, Howell, Ozark, LaClede, Dallas, Greene, and Jasper counties.

Proserpinaca palustris L. See Rh. 37: 177. 1935.

Ponds, sloughs, and slow streams. Circumneutral. Southeastern Mo.: New Madrid, Dunklin, and Butler counties.

Proserpinaca palustris var. *amblyogona* Fernald, Rh. 11: 120. 1909.

In similar situations to the typical form. Circumneutral. Southeastern Mo.: Butler and Dunklin counties.

Proserpinaca palustris var. *crebra* Fernald & Griscom, Rh. 37: 177. 1935.

Swampy woods, ponds, and sloughs. Circumneutral. Scattered: Livingston, St. Louis, Jefferson, Shannon, Barton, and Jasper counties. This is the commonest variety in Missouri.

Fam. ARALIACEAE

Aralia spinosa L. Tear Blanket, Hercules' Club.

Low woods and thickets. Circumneutral. Southeastern Mo.: Cape Girardeau, Bollinger, Madison, Wayne, Stoddard, Dunklin, Butler, and Ripley counties, and also introduced in St. Louis Co.

Aralia racemosa L. American Spikenard.

Rich wooded hillsides, and along shaded bluffs. Circumneutral to oxylophile. Eastern and middle Mo.: Sullivan, Schuyler, Clark, Lewis, Marion, Ralls, Boone, Callaway, Montgomery, Lincoln, Warren, St. Charles, St. Louis, Jefferson, Franklin, Ste. Genevieve, Perry, Bollinger, Stoddard, Scott, Wayne, Reynolds, Shannon, Carter, Oregon, Howell, Texas, Dent, Phelps, Morgan, Benton, Laclade, Douglas, and Ozark counties.

Panax quinquefolium L. Ginseng.

Rich woods and along the base of rocky bluffs. Circumneutral. General but uncommon and being exterminated in many sections through persistent digging by natives: Clark, Pike, Boone, St. Louis, Jefferson, Franklin, Bollinger, Shannon, Jackson, and Greene counties.

Fam. UMBELLIFERAE

Eryngium yuccifolium Michx. Button Snakeroot, Rattlesnake Master.

Rocky open woods, prairies, and glades. Circumneutral. General.

Eryngium prostratum Nutt.

Low wet woods, sandy prairies, and borders of swamps and ponds. Circumneutral to oxylophile. Southeastern Mo.: Scott, Mississippi, Stoddard, Dunklin, Butler, Ripley, Shannon, Texas, and Howell counties.

Sanicula gregaria Bicknell. Black Snakeroot.

Rocky open woods and thickets. Circumneutral. General.

Sanicula canadensis L.

Rocky open woods and thickets. Circumneutral. General.

Sanicula Smallii Bicknell.

Rich woods. Circumneutral. Southeastern Mo.: Ripley Co.

Eryngium bulbosum (Michx.) Nutt. Harbinger-of-spring.

Rich woods, alluvial thickets, and along the base of rocky bluffs. Circumneutral to calciphile. East-central and southern Mo.: Randolph, Boone, Audrain, Callaway, Montgomery, Warren, St. Louis, Jefferson, Franklin, Gasconade, Washington, St. Francois, Ste. Genevieve, Madison, Bollinger, Wayne, Shannon, Phelps, Pulaski, Moniteau, Laclade, Greene, Taney, Douglas, and Jasper counties.

Chaerophyllum procumbens (L.) Crantz. Wild Chervil.

Rich or rocky open woods, thickets, glades, and open alluvial ground. Circumneutral. General.

Chaerophyllum procumbens var. *Shortii* T. & G.

Chaerophyllum Shortii (T. & G.) Bush (S).

Similar situations to the preceding. Scattered: St. Louis, Taney, and Jackson counties.

Chaerophyllum texanum Coulter & Rose. See Rh. 11: 52. 1909.

Rocky prairies and glades. Circumneutral. Central and southern Mo.: Bollinger, Boone, Taney, Jackson, St. Clair, Greene, Barry, Vernon, Jasper, and Newton counties.

Chaerophyllum Tainturieri Hook. var. *floridanum* Coulter & Rose.

Glades and rocky waste ground. Southern Mo., scattered: Dunklin, Butler, Barry, and Jasper counties.

Osmorrhiza Claytoni (Michx.) Clarke. Woolly Sweet Cicely.

Rich woods and thickets. Circumneutral. General.

Osmorrhiza longistylis (Torr.) DC. Smooth Sweet Cicely.

Rich woods and thickets. Circumneutral. General.

Osmorrhiza longistylis var. *willicaulis* Fernald.

Sometimes found with the typical form. Scattered.

Spermolepis patens (Nutt.) Robinson.

Rocky prairies and glades. Circumneutral. General but scattered: Macon, Boone, St. Louis, Jefferson, Scott, Clay, Jackson, Greene, Taney, Barry, Jasper, and Newton counties.

Spermolepis echinata (Nutt.) Heller.

Rocky prairies, glades, and sandy or gravelly ground along streams. Oxylophile. Bollinger, Scott, Iron, Carter, Ripley, Polk, Jasper, and Newton counties.

CONIUM MACULATUM L. Poison Hemlock.

Waste ground and along railroads and roadsides. Indifferent. Central and southern Mo., scattered: St. Louis, Washington, Madison, Cole, Saline, Lawrence, Jasper, and Newton counties.

Ptilimnium capillaceum (Michx.) Raf. Mock Bishop's-weed.

Swamps and prairie swales. Circumneutral. East-central and southern Mo., scattered: St. Louis, Jefferson, New Madrid, Butler, Ripley, Greene, and Jasper counties.

Ptilimnium Nuttallii (DC.) Britton.

Prairie swales, wet meadows, and depressions in glades. Circumneutral to oxylophile. Central and southern Mo.: St. Louis, Jefferson, Franklin, Iron, Wayne, Bollinger, Mississippi, Dunklin, Butler, Ripley, Pulaaki, Howell, Greene, Jackson, Vernon, Barry, Jasper, Newton, and McDonald counties.

Cicuta maculata L. Spotted Cowbane.

Borders of ponds, sloughs, and prairie streams. Circumneutral. General.

CARUM CARVI L. Caraway.

Occasionally escaped from gardens to roadsides and waste ground. Indifferent. Scattered: Boone and Jackson counties.

Sium suave Walt. See Rh. 17: 131. 1915. Water Parsley.

Sium cicutaefolium J. F. Gmel. (G), (B & B).

Swamps and wet prairies. Circumneutral. Northern, central, and eastern Mo.: Shelby, St. Charles, St. Louis, Mississippi, New Madrid, Dunklin, Ripley, Boone, Livingston, and Jackson counties.

Cryptotaenia canadensis (L.) DC. Honewort.

Rocky woods and ledges along bluffs. Circumneutral. General.

Zizia aurea (L.) Koch. Golden Alexanders, Meadow Parsnip.

Rich rocky woods and thickets. Circumneutral to calciphile. General.

Zizia cordata (Walt.) DC.

Rich rocky woods, thickets, and prairies. Circumneutral. Central and southern Mo.: St. Louis, Jefferson, Franklin, Madison, Iron, Reynolds, Carter, Oregon, Shannon, Boone, Hickory, Taney, Stone, Barry, Jackson, Jasper, and McDonald counties.

Taenidia integriflora (L.) Drude. Yellow Pimpernel.

Rocky open woods and ledges along bluffs. Calciphile to circumneutral. General, but commonest in the Ozark region.

Eulophus americanus Nutt.

Rocky open woods and glades. Calciphile to circumneutral. East-central and southern Mo.: Franklin, Jefferson, Washington, Phelps, Shannon, Texas, Greene, Wright, Webster, Taney, Barry, Jasper, and Newton counties.

Bupleurum rotundifolium L. Thorough-wax.

Fields and waste ground. Circumneutral. Scattered: Jefferson, Franklin, Washington, and Clay counties.

Cynosciadium pinnatum DC.

Pools and wet depressions in glades. Oxylophile. Southwestern Mo.: Newton and McDonald counties.

Cynosciadium digitatum DC.

Low wet woods and swamps. Circumneutral to oxylophile. Southeastern Mo., local: Dunklin Co.

Ligusticum canadense (L.) Britton. Angelico.

Rocky woods and moist ground along streams. Circumneutral to oxylophile. Southern Mo.: Iron, Bollinger, Ripley, Oregon, Shannon, Texas, Howell, Wright, Webster, Douglas, Stone, and McDonald counties.

Coriandrum sativum L. Coriander.

Occasionally escaped from gardens to roadsides and waste ground. Indifferent. Scattered: St. Louis, Boone, and Jackson counties.

Foeniculum vulgare Hill. Fennel.

Sometimes escaping from gardens to roadsides and waste ground. Indifferent. Scattered: St. Louis, Boone, and Jackson counties.

Thaspium barbinode (Michx.) Nutt.

Rocky open woods, and along banks and bluffs of streams. Circumneutral to oxylophile. Eastern, southern, and central Mo.

Thaspium trifoliatum (L.) Gray var. *flavum* Blake, Rh. 20: 53. 1918.

Thaspium aureum of auth., not Nutt. (G).

Thaspium trifoliatum (L.) Britton, in part (B & B).

Thickets and rocky prairies. Circumneutral. General.

Cogswellia daucifolia (Nutt.) M. E. Jones, Contr. West. Bot. 12: 34. 1908.

Lomatium daucifolium (Nutt.) Coulter & Rose (G).

Limestone glades. Calciphile. West-central Mo.: Jackson and Cass counties.

Polytaenia Nuttallii DC. Prairie Parsley.

Rocky prairies and glades. Calciphile to circumneutral. General.

Pastinaca sativa L. Parsnip.

Escaped from cultivation and common in field, waste ground, and along roadsides and railroads. Indifferent. General.

Heracleum lanatum Michx. Cow Parsnip.

Moist rich woods and thickets. Circumneutral. Scattered: St. Louis, Cass, and Jasper counties.

LEVISTICUM OFFICINALE (L.) Koch. Lovage.

Escaped from cultivation to waste ground and roadsides. Washington Co.

ANETHUM GRAVEOLENS L. Dill.

Cultivated and rarely escaped to roadsides and waste ground. Jackson Co.

Oxypolis rigidior (L.) Coulter & Rose. Cowbane.

Moist shaded bluffs and wet ground along streams. Calciphile to circumneutral. Eastern, central, and southern Mo.: Shelby, St. Louis, Jefferson, Franklin, Washington, Iron, Bollinger, Reynolds, Carter, Ripley, Shannon, Dent, Pulaski, Laclede, Dallas, Texas, Polk, Howell, Douglas, Greene, Taney, Barry, Jasper, and Jackson counties.

Oxypolis rigidior var. *ambigua* (Nutt.) Robinson.

In similar situations to the typical form. Calciphile to circumneutral. Eastern and southern Mo.: Shelby, Dent, Iron, Shannon, Texas, and Laclede counties.

Conioselinum chinense (L.) BSP. Hemlock Parsley.

Waste ground and along small streams. Indifferent. Southwestern Mo.: Christian, Lawrence, and Jasper counties.

Angelica villosa (Walt.) BSP. Wood Angelica.

Rocky woods and glades. Circumneutral to oxylophile. Southern Mo.: Crawford, Iron, Carter, Shannon, Oregon, Dent, Phelps, Texas, Howell, Ozark, Pulaski, Wright, Webster, Douglas, Greene, Barry, and McDonald counties.

TORILIS ANTHRISCUS (L.) Bernh. Hemlock Chervil.

Roadsides and waste ground. Indifferent. Recently introduced in many places and becoming general: Schuyler, Jefferson, Carter, Oregon, Howell, Boone, Saline, Camden, Pulaski, Phelps, Benton, Dallas, Wright, Douglas, Greene, Clay, Jackson, Cass, Johnson, Cedar, Vernon, Jasper, and McDonald counties.

Daucus pusillus Michx.

Rocky prairies and glades. Circumneutral to oxylophile. Scattered, but commonest in southwestern Mo.: Schuyler, Linn, Benton, Ozark, Taney, Stone, Barry, Jasper, Newton, and McDonald counties.

DAUCUS CAROTA L. Queen Anne's Lace, Carrot.

Fields, waste ground, and along railroads and roadsides. Indifferent. Escaped from cultivation. General.

Fam. CORNACEAE

Cornus florida L. Flowering Dogwood.

Rocky open woods, bluffs, and thickets. Circumneutral to oxylophile. Eastern, central, and southern Mo.; common in the Ozark region.

Cornus florida f. *rubra* (West) Palmer & Steyermark, comb. nov.

Cornus florida var. *rubra* West.

Rarely found with the typical form. Jasper Co.

Cornus alternifolia L. f. Pigeon Berry, Alternate-leaved Dogwood.

Along bluffs and banks of streams. Circumneutral to oxylophile. Eastern and middle Mo., mostly along the larger rivers and locally in the eastern Ozark region: Clark, Lewis, Boone, Callaway, St. Louis, Jefferson, Dent, Shannon, and Texas counties.

Cornus obliqua Raf. Kinnikinnik, Swamp Dogwood.

Cornus Purpusi Koehne.

Cornus Amomum of auth. in part, not Mill. (G), (B & B).

Thickets, wet prairies, bogs, and along beds of small streams. Circumneutral. General, and probably in every county.

Cornus asperifolia Michx. Rough-leaved Dogwood.

Thickets and borders of woods; in dry rocky, or sometimes in moist, alluvial ground. Circumneutral. General, and probably in every county.

Cornus femina Mill. Stiff Dogwood.

Cornus stricta Lam. (G). (B & B).

Swamps and low open ground. Circumneutral. Southeastern Mo.: Cape Girardeau, Bollinger, Scott, Mississippi, New Madrid, Dunklin, Stoddard, Butler, Ripley, Carter, Reynolds, and Iron counties.

Cornus racemosa Lam. Gray Dogwood.

Cornus paniculata L'Her. (G).

Cornus femina of auth., not Mill. (B & B).

Low woods and thickets, and wet rocky ground along streams. Circumneutral. General but scattered.

Nyssa sylvatica Marsh. Black Gum.

Rocky or alluvial woods along streams and hillsides. Circumneutral to oxylophile. Central and southern Mo., south and east of a line drawn from Jefferson, Franklin, Cole, and Benton counties to Newton Co.

Nyssa aquatica L. Tupelo.

Swamps and low wet woods. Circumneutral. Southeastern Mo.: Bollinger, Cape Girardeau, Scott, Mississippi, New Madrid, Pemiscot, Dunklin, Stoddard, Butler, and Ripley counties.

Fam. ERICACEAE

Monotropa uniflora L. Indian Pipe, Ghost Flower.

Woods and thickets. Oxylophile to circumneutral. General but scattered: Macon, Boone, Lincoln, St. Louis, Ste. Genevieve, Franklin, Jefferson, Washington, Crawford, Stoddard, Dunklin, Butler, Carter, Shannon, Howell, Ozark, Webster, Greene, Stone, Harrison, Platte, Jackson, Jasper, Newton, and McDonald counties.

Monotropa Hypopitys L. Pinesap.

Rich or rocky woods, and gravelly banks. Oxylophile. East-central and southern Mo., scattered: St. Louis, Jefferson, Ste. Genevieve, Shannon, Greene, Jasper, Newton, and McDonald counties.

Rhododendron nudiflorum (L.) Torr. var. *roseum* (Lois.) Wiegand, Rh. 26: 4. 1924. Wild Honeysuckle.

Rhododendron nudiflorum Torr., in part (G).

Azalea nudiflora L., in part (B & B).

Rocky wooded hillsides and bluffs. Oxylophile: usually on siliceous or granitic rocks. Southern Mo., mainly in the eastern Ozark region: Ste. Genevieve, Cape Girardeau, Bollinger, Madison, Iron, Reynolds, Wayne, Ripley, Douglas, and Ozark counties.

Vaccinium arboreum Marsh. Farkleberry.

Rocky woods and bluffs: Oxylophile. Southern Mo.: Perry, Bollinger, Oregon, Gasconade, Shannon, and Howell counties.

Vaccinium arboreum var. *glaucescens* (Greene) Sarg.

Batodendron glaucescens Greene (S).

Batodendron andrachnaeiforme Small (S).

Rocky woods and bluffs. Oxylophile; usually on siliceous or granitic rocks. East-central and southern Mo.: Lincoln, St. Louis, Jefferson, Ste. Genevieve, St. Francois, Perry, Bollinger, Madison, Iron, Reynolds, Wayne, Butler, Dunklin, Washington, Carter, Ripley, Oregon, Shannon, Dent, Crawford, Gasconade, Phelps, Pulaski, Texas, Howell, Douglas, Ozark, Taney, Stone, Barry, Jasper, Newton, and McDonald counties.

Vaccinium stamineum L. High-bush Huckleberry, Deerberry.

Rocky woods and glades. Oxylophile. Southern Mo.: Washington, St. Francois, Ste. Genevieve, Iron, Madison, Bollinger, Wayne, Carter, Ripley, Oregon, Shannon. Texas, Howell, Douglas, Webster, Ozark, Greene, Christian, Taney, Stone, Barry, Newton, and McDonald counties.

Vaccinium stamineum var. *neglectum* (Small) Deam, Indiana Dept. Conserv. Publ. 44: 288. rev. ed. 1932.

Polycodium neglectum Small (S).

Vaccinium neglectum (Small) Fernald (G).

Rocky open woods and glades. Oxylophile. Southern Mo.: Ste. Genevieve, Bollinger, Madison, Iron, Reynolds, Wayne, Dunklin, Ripley, Carter, Oregon, Shannon, Dent, Texas, Howell, Douglas, Webster, Ozark, Taney, Stone, Cedar, Barry, and McDonald counties.

Vaccinium stamineum var. *interius* (Ashe) Palmer & Steyermark, comb. nov.

Polycodium interius Ashe, Jour. Elisha Mitchell Sci. Soc. 46: 210. 1931.

Rocky open woods. Oxylophile. Southern Mo., scattered: Shannon and Barry counties.

Vaccinium melanocarpum Mohr. High-bush Huckleberry, Southern Gooseberry.

Rocky open woods. Oxylophile. Southern Mo.: Wayne, Carter, Barry, and McDonald counties.

Vaccinium virgatum Ait. var. *tenellum* (Ait.) Gray.

Moist sandy or rocky ground. Oxylophile. Southeastern Mo.: Ste. Genevieve, Bollinger, Madison, and Butler counties.

Vaccinium vacillans Kalm. Low-bush Huckleberry, Low-bush Blueberry.

Rocky open woods, glades, and bluffs. Oxylophile. Southern Mo., scattered and mostly in the eastern Ozark region: Jefferson, St. Francois, Madison, Iron, Dunklin, Shannon, and McDonald counties.

Vaccinium vacillans var. *crinitum* Fernald, Rh. 13: 236. 1911.

Vaccinium missouriense Ashe.

Rocky open woods, glades, and bluffs. Oxylophile. Central and southern Mo., south and east of a line drawn from Lincoln, Boone, and Henry counties to Jasper Co. This is the commonest form in Missouri and throughout the Ozark region.

Fam. PRIMULACEAE

Androsace occidentalis Pursh.

Rocky prairies, fields, glades, open woods, and bluffs. Calciphile to circumneutral. Eastern, southern, and central Mo., south and east of a line drawn from Marion and Boone counties to Jackson Co., and locally northwest in Daviess Co.

Hottonia inflata Ell. Water Violet.

Swamps, sloughs, and bayous. Circumneutral to oxylophile. Eastern Mo., south of the Missouri River: St. Louis, Jefferson, Bollinger, Wayne, and Dunklin counties.

Samolus parviflorus Raf. Water Pimpernel.

Samolus floribundus HBK. (G), (B & B).

Low wet woods, swamps, spring branches, and wet ledges along bluffs. Calciphile to circumneutral. East-central and southern Mo.: Ralls, Randolph, Boone, Callaway, Montgomery, Warren, St. Louis, Jefferson, Franklin, Ste. Genevieve, St. Francois, Perry, Bollinger, Madison, Mississippi, Dunklin, Butler, Wayne, Ripley, Carter, Reynolds, Oregon, Dent, Shannon, Howell, Texas, Crawford, Phelps, Miller, Morgan, Benton, St. Clair, Hickory, Polk, Dallas, Laclede, Douglas, Ozark, Taney, Greene, Stone, Barry, Jasper, and McDonald counties.

Lysimachia thyrsiflora L. Tufted Loosestrife.

Swamp and bogs. Circumneutral to oxylophile. Western Mo., local: Jackson Co.

Lysimachia nummularia L. Moneywort.

Low wet woods and boggy open ground. Circumneutral. Scattered: Marion, Boone, St. Louis, Perry, Madison, Oregon, Gasconade, Platte, Clay, and Jackson counties.

Steironema ciliatum (L.) Raf.

Moist open woods, prairie swales, and banks of ponds and streams. Circumneutral. General.

Steironema radicans (Hook.) Gray.

Low wet woods, and borders of streams and bayous. Circumneutral. Bollinger, Stoddard, New Madrid, Pemiscot, Dunklin, Butler, and Ripley counties.

Steironema lanceolatum (Walt.) Gray.

Wet or rocky dry woods, thickets, swamps, and banks of streams. Oxylophile to circumneutral. Eastern, southern, and central Mo.: Knox, Shelby, Randolph, Boone, Audrain, Callaway, Montgomery, Lincoln, St. Louis, Jefferson, Franklin, Washington, Ste. Genevieve, Bollinger, Madison, Wayne, Iron, Reynolds, Carter, Ripley, Oregon, Crawford, Dent, Phelps, Maries, Cole, Wright, Webster, Greene, Ozark, Jackson, Cass, Jasper, and McDonald counties.

Steironema lanceolatum var. *angustifolium* (Lam.) Gray.

Occasionally found with the typical form. Scattered: Jefferson, Shannon, and Greene counties.

Steironema lanceolatum var. *hybridum* (Michx.) Gray.

Low open ground. Circumneutral. Scattered: Knox, St. Louis, Mississippi, Boone, and Jackson counties.

Steironema quadriflorum (Sims) Hitchc. Crosswort, Whorled Loosestrife.

Low wet woods and rocky banks of streams. Calciphile to circumneutral. East-central and southern Mo.: St. Louis, Jefferson, Washington, Iron, Butler, Ripley, Oregon, Shannon, Dent, Crawford, Phelps, Laclede, Texas, Howell, Douglas, Ozark, Greene, and Taney counties.

ANAGALLIS ARvensis L. Poor Man's Weatherglass, Scarlet Pimpernel.

Fields, glades, and waste ground. Circumneutral. Central and southern Mo.: St. Louis, Jefferson, Franklin, Washington, Ste. Genevieve, Bollinger, Madison, Boone, Phelps, Ozark, Miller, Polk, Greene, and McDonald counties.

ANAGALLIS ARvensis var. *CAerulea* (Schreb.) Ledeb.

Similar situations to the typical form. Scattered: St. Louis, Franklin, Gasconade, and Miller counties.

Centunculus minimus L. Chaffweed.

Meadows, prairies, and glades. Circumneutral. Central and southern Mo., scattered: Boone, St. Charles, St. Louis, Jefferson, Crawford, Shannon, Greene, Barry, Jackson, Jasper, and McDonald counties.

Dodecatheon Meadia L. Shooting Star.

Prairies, glades, bluffs, and moist wooded hillsides. Circumneutral to oxylophilic. General but uncommon in many localities.

Fam. SAPOTACEAE

Bumelia lycioides (L.) Pers. Southern Buckthorn.

Low woods. Circumneutral. Southeastern Mo.: Pemiscot and Butler counties.

Bumelia lanuginosa (Michx.) Pers. Chittim-wood, Gum-elastic.

Dry rocky woods, bluffs, and glades. Circumneutral. Central and southern Mo., south of a line drawn from Lincoln, Boone, Pettis and St. Clair to Barton Co.

Fam. EBENACEAE

Diospyros virginiana L. Persimmon.

Prairies, borders of woods, and along small streams. Circumneutral. General but commonest in central and southern Mo.

Diospyros virginiana f. *pumila* Palmer & Steyermark, f. nov.

Rocky open woods and glades. West-central Mo.: Jackson and Bates counties.

Frutex 2-4 m. altus vel raro arbor ad 7-8 m. alta; a typo differt foliis minoribus dense pubescentibus; ramulis novellis, petiolis sepalisque dense pubescentibus.

This form differs from the variety *pubescens* in its usually shrubby habit, in the generally smaller leaves, and the more densely tomentose branchlets, foliage, and calyx. It differs from the variety *platycarpa* in the much smaller, more pubescent leaves, and in the smaller fruit, which is oblong or subglobose and not flattened or depressed. The leaves of this proposed form are oblong or oblong-

lanceolate, rounded or abruptly pointed at the apex, usually rounded or subcordate at the base, ciliate on the margins, dark green and scabrate above when young, but becoming glabrous, permanently densely pubescent on the pale under surface. The short stout petioles (8–15 mm. long) are densely pubescent, as is also the calyx.

MISSOURI: Dodson, June 6, 1913, *B. F. Bush* 7041 (Arn. Arb. TYPE); Westport, June 10, 1900, *B. F. Bush* 787 (Arn. Arb.); Greenwood, June 5, 1923, *B. F. Bush* 10092 (Arn. Arb.); Greenwood, Sept. 5, 1924, *E. J. Palmer* 26030 (Arn. Arb.); Monteith Junction, Bates Co., Sept. 10, 1924, *E. J. Palmer* 26080 (Arn. Arb.); ARKANSAS: Hot Springs, Garland Co., April 21, Oct. 9, 1925, *E. J. Palmer* 26840, 29109 (Arn. Arb.).

Although the American persimmons vary greatly in foliage and fruit, it is difficult to find constant characters on which to separate the different forms. The one here described looks so well marked that it might well be regarded as a distinct species or variety, but since a specimen cultivated at the Arnold Arboretum from seed collected at the type locality does not retain the distinctive shape of the small leaves, it is perhaps best to regard it as an ecological form.

Diospyros virginiana var. *platycarpa* Sarg. Jour. Arnold Arb. 2: 168. 1921.

Circumneutral to calciphile. East-central and southern Mo., scattered: St. Louis, Dunklin, Carter, Shannon, Christian, Barton, and Jasper counties.

Diospyros virginiana var. *pubescens* (Pursh) Dippel, Handb. Laubholzk. 1: 306. 1889.

Diospyros pubescens Pursh.

Frequently found with the typical form. Scattered: Marion, Ralls, Boone, Callaway, St. Louis, Wayne, Oregon, Ozark, Johnson, Greene, Stone, and McDonald counties.

Fam. STYRACACEAE

Styrax americana Lam. Smooth Storax.

Swamps and low wet woods. Circumneutral to oxylophilic. Southeastern Mo.: Bollinger, Mississippi, New Madrid, Pemiscot, Dunklin, Butler, and Ripley counties.

Fam. OLEACEAE

Fraxinus americana L. White Ash.

Upland woods, glades, and borders of streams. Circumneutral. General, and probably in every county.

Fraxinus americana var. *subcoriacea* Sarg. Bot. Gaz. 67: 241. 1919.

Low woods. Circumneutral. Southeastern Mo.: Dunklin Co.

Fraxinus pennsylvanica Marsh. Red Ash.

Woods along streams, and borders of lakes and ponds. Circumneutral. Northern and central Mo., scattered: Scotland, Adair, Marion, St. Louis, Saline, Atchison, and Jackson counties.

Fraxinus pennsylvanica var. *lanceolata* (Borkh.) Sarg. Green Ash.

Low woods, swamps, and borders of streams. Circumneutral. General, and probably in every county.

***Fraxinus profunda* Bush. Pumpkin Ash.**

Low wet woods and swamps. Circumneutral. Southeastern Mo.: Cape Girardeau, Mississippi, New Madrid, Pemiscot, Dunklin, Stoddard, Butler, and Ripley counties.

***Fraxinus profunda* var. *Ashii* Palmer, Jour. Arnold Arb. 13: 417-418. 1932.**

Occasionally found with the typical form. Dunklin Co.

***Fraxinus quadrangulata* Michx. Blue Ash.**

Bluffs, glades, rocky upland woods, and rarely in alluvial ground along streams. Calciphile to circumneutral. Eastern, central, and southern Mo. and locally north to Livingston Co.: Marion, Ralls, Pike, Monroe, Randolph, Livingston, Saline, Howard, Cooper, Boone, St. Charles, St. Louis, Franklin, Jefferson, Crawford, Washington, Iron, Madison, Bollinger, Mississippi, Butler, Oregon, Dent, Shannon, Texas, Phelps, Laclede, Miller, Benton, Hickory, Dallas, Howell, Ozark, Greene, Christian, Taney, Stone, Barry, Jasper, and McDonald counties.

***Fraxinus biltmoreana* Beadle.**

Woods and hillsides. Circumneutral. Southeastern Mo.: Dunklin Co.

***Forestiera acuminata* (Michx.) Poir. Swamp Privet.**

Swamps, low woods, and borders of streams and bayous. Circumneutral. Eastern and southern Mo., mainly along the Mississippi and White River: Marion, Pike, Lincoln, St. Charles, St. Louis, Jefferson, Ste. Genevieve, Perry, Mississippi, New Madrid, Stoddard, Dunklin, Pemiscot, Butler, Taney, Stone, and Jasper counties.

***Chionanthus virginica* L. Old Man's Beard, Fringe Tree.**

Low open woods and along bluffs. Circumneutral to oxyophile. Southern Mo., scattered and rare: Mississippi and Ozark counties.

Fam. LOGANIACEAE***Spigelia marilandica* L. Pink-root.**

Low open woods and moist thickets. Circumneutral to oxyophile. Southeastern Mo.: St. Francois, Cape Girardeau, Dunklin, Butler, Ripley, and Oregon counties.

***Polypteron procumbens* L.**

Sandy open ground. Oxyophile. Southeastern Mo.: Mississippi and Dunklin counties.

Fam. GENTIANACEAE***Sabatia campestris* Nutt. Prairie Pink.**

Prairies, fields, and glades. Circumneutral to calciphile. Central and southern Mo., scattered: Boone, Montgomery, Dent, Shannon, Greene, Clay, Jackson, Vernon, Jasper, and Newton counties.

***Sabatia angularis* (L.) Pursh. Rose Pink.**

Rocky open woods, thickets, and glades. Circumneutral to calciphile. Eastern, central, and southern Mo.: Shelby, Randolph, Boone, Callaway, Montgomery, Lincoln, St. Charles, St. Louis, Jefferson, Franklin, Gasconade, Ste.

Genevieve, Perry, Bollinger, Stoddard, New Madrid, Dunklin, Butler, Ripley, Oregon, Shannon, Howell, Texas, Phelps, Pulaski, Laclede, Camden, Miller, Cole, Polk, Greene, Taney, Stone, Barry, Vernon, Jasper, Newton, and McDonald counties.

Centaureum texense (Griseb.) Fernald. *Centaury.*

Glades and bald knobs. Calciphile. Central and southwestern Mo.: Miller, Greene, Christian, Taney, and Barry counties.

Centaureum calycosum (Buckley) Fernald.

Introduced along railways. Jackson Co.

Gentiana quinquefolia L. var. *occidentalis* (Gray) Hitchc. *Ague Weed.*

Rocky wooded banks and bluffs of streams. Oxylophile to circumneutral. Eastern Mo.: Clark, Adair, Jefferson, Ste. Genevieve, Iron, Reynolds, Carter, and Shannon counties. This has been confused with the typical form which is not known to occur in Mo.

Gentiana puberula Michx. *Purple Gentian.*

Prairies and glades. Circumneutral to calciphile. General, but not common: Schuyler, Adair, Macon, Randolph, Shelby, Marion, Monroe, Ralls, Pike, Audrain, St. Louis, Crawford, Shannon, Phelps, Maries, Pulaski, Wright, Webster, Greene, Taney, Lawrence, Barry, Daviess, Saline, Randolph, Jackson, Cass, Hickory, Cedar, Jasper, and McDonald counties.

Gentiana Andrewseii Griseb. *Closed Gentian.*

Wet open woods, and borders of ponds and streams. Circumneutral. Scattered: St. Louis, Ste. Genevieve, Dent, Boone, Jackson, and Jasper counties.

Gentiana clausa Raf. See Rh. 19: 149. 1917. *Closed Gentian.*

Prairie swales, moist banks, and low ground along streams. Circumneutral. General but scattered: Schuyler, Adair, Macon, Osage, Iron, Butler, Oregon, Texas, Douglas, Saline, Jackson, Cass, and Polk counties. This has sometimes been confused with the last species and with *Gentiana Saponaria*.

Gentiana flavida Raf. *Pale Gentian.*

Rocky prairies, thickets, and glades. Circumneutral. General but scattered: Schuyler, Sullivan, Ralls, Warren, St. Louis, Franklin, Scott, Shannon, Texas, Phelps, Maries, Morgan, Jackson, Cass, Greene, Taney, Stone, Barry, Jasper, and Newton counties.

Frasera carolinensis Walt. *American Columbo.*

Rocky open woods and thickets. Oxylophile. Southeastern Mo., mostly in the eastern Ozark region: Maries, Jefferson, Ste. Genevieve, St. Francois, Bollinger, Washington, Madison, Wayne, Iron, and Scott counties.

NYMPHOIDES PELTATUM (S. P. Gmel.) Britton & Rendle. *Floating Heart.*

Introduced in ponds. Scattered: St. Louis, Iron, and Newton counties.

Fam. APOCYNACEAE

Amsonia Tabernaemontana Walt.

Rich woods and thickets. Circumneutral to oxylophile. East-central and southern Mo.: St. Louis, Jefferson, Franklin, Polk, Greene, Webster, Douglas, Taney, Stone, Lawrence, Barry, Jasper, Newton, and McDonald counties.

Amsonia Tabernaemontana var. **salicifolia** Woodson, Ann. Mo. Bot. Gard. 15: 406. 1928.

Alluvial thickets and rich ground along bluffs. Circumneutral. Scattered: Pike, St. Louis, Jefferson, Dent, Ripley, Greene, Christian, and McDonald counties.

Amsonia Tabernaemontana var. **Gattingeri** Woodson, Ann. Mo. Bot. Gard. 15: 408. 1928.

Rich open woods along bluffs and streams. Circumneutral. East-central and southern Mo.: Lincoln, St. Louis, Lawrence, and Jasper counties.

Amsonia illustris Woodson, Ann. Mo. Bot. Gard. 16: 407. 1929.

Rocky open ground and gravel bars of streams. Circumneutral. Central and southern Mo.: Lincoln, St. Louis, Franklin, Jefferson, Crawford, Carter, Ripley, Oregon, Dent, Shannon, Osage, Miller, Phelps, Maries, Pulaski, Laclede, Hickory, Dallas, Stone, Jasper, Newton, and McDonald counties.

Amsonia ciliata Walt. var. **tenuifolia** (Raf.) Woodson, Ann. Mo. Bot. Gard. 15: 400. 1928.

Glades and bald knobs. Circumneutral to calciphile. Southern Mo.: Douglas and Ozark counties.

Trachelospermum difforme (Walt.) Gray.

Swamps and borders of bayous. Circumneutral. Southeastern Mo.: Stoddard, Dunklin, Butler, and Ripley counties, and also in St. Louis Co.

Apocynum androsaemifolium L. Pink-flowered Dogbane.

Apocynum sylvaticum Greene.

Thickets and dry rocky woods. Circumneutral to oxylophile. General but scattered: Mercer, Putnam, Sullivan, Adair, St. Louis, Jefferson, Iron, Shannon, Howell, Boone, Miller, Morgan, Dallas, Wright, Douglas, Webster, Greene, Lawrence, Barry, and Jasper counties.

Apocynum cannabinum L. Indian Hemp, Dogbane.

Rocky prairies, open woods, and glades. Circumneutral. East-central and southern Mo., scattered: St. Louis, Iron, Oregon, Phelps, Stone, and McDonald counties.

Apocynum cannabinum var. **glaberrimum** A. DC.

Rocky open woods, thickets, and waste ground. Circumneutral. General.

Apocynum cannabinum var. **pubescens** (Mitchell) A. DC.

Rocky open woods, thickets, and waste ground. Circumneutral. General.

Apocynum medium Greene.

Rocky open woods and thickets. Circumneutral to oxylophile. General.

Apocynum medium var. **leuconeuron** (Greene) Woodson, Ann. Mo. Bot. Gard. 17: 112. 1930.

Similar situations to the preceding. Circumneutral to oxylophile. General but scattered.

Apocynum hypericifolium Ait.

Apocynum cannabinum var. *hypericifolium* (Ait.) Gray (G).

Rocky stream beds and alluvial soil. Circumneutral to calciphile. Northern and central Mo., and locally south in Texas Co.: Mercer, Boone, St. Charles, St. Louis, Andrew, Carroll, Jackson, and Texas counties.

Apocynum hypericifolium var. *cordigerum* (Greene) Beg. & Bel. Atti R. Accad. Lincei, V. 9: 114. 1913.

In similar situations to the typical form. Circumneutral to calciphile. Northern and central Mo., scattered: Scotland, Dekalb, Livingston, Macon, and Jackson counties.

VINCA MINOR L. Periwinkle.

Cultivated and occasionally escaped. Indifferent. Scattered: Marion, St. Charles, St. Louis, Jefferson, Scott, Texas, and Clay counties.

Fam. ASCLEPIADACEAE

Asclepiodora viridis (Walt.) Gray.

Rocky prairies and glades. Calciphile to circumneutral. Central and southern Mo.: St. Louis, Jefferson, Washington, St. Francois, Ste. Genevieve, Bollinger, Butler, Ripley, Oregon, Carter, Shannon, Phelps, Miller, Douglas, Wright, Ozark, Taney, Stone, Barry, Vernon, Barton, Jasper, Newton, and McDonald counties.

Asclepias tuberosa L. Butterfly-weed.

Rocky open woods, prairies, and glades. Circumneutral. General.

Asclepias tuberosa f. *lutea* Clute, Am. Bot. 18: 73. 1912.

Occasionally found with the typical form. Jefferson Co.

Asclepias purpurascens L. Purple Milkweed.

Rocky open woods, thickets, and glades. Circumneutral. General. This has sometimes been confused with *Asclepias exaltata* (*A. phytolaccoides*) which is not known to occur in Mo.

Asclepias incarnata L. Swamp Milkweed.

Low wet woods, and borders of ponds, sloughs, and prairie streams. Circumneutral. General.

Asclepias speciosa Torr.

Open ground. Circumneutral. Local: St. Louis Co.

Asclepias syriaca L. var. *kansana* (Vail) Palmer & Steyermark, comb. nov.

Asclepias kansana Vail (B & B).

Asclepias syriaca of auth., in part (G), (B & B).

Open woods, fields, and waste ground. Circumneutral. General and common.

Typical *Asclepias syriaca* with few and short prickles on the seed pods is more eastern and has not been found in Mo.

Asclepias Sullivantii Engelm.

Prairies and thickets. Circumneutral. Northern and central Mo.: Scotland, Schuyler, Gentry, Linn, Livingston, Chariton, Randolph, Lincoln, St. Charles, St. Louis, Atchison, Dekalb, Jackson, and Henry counties.

Asclepias humistrata Walt.

Asclepias amplexicaulis Michx., not Sm. (G), (B & B).

Rocky open woods, prairies, and glades. Circumneutral. Central and southern Mo., scattered: St. Louis, Scott, Mississippi, Shannon, Dent, Jackson, Greene, and Jasper counties.

***Asclepias Meadii* Torr.**

Dry open woods and prairies. Circumneutral. Central and southern Mo., scattered: St. Louis, Iron, and Cass counties.

***Asclepias variegata* L.**

Sandy open ground and dry rocky woods. Oxyophile to circumneutral. Southeastern Mo.: Scott, Dunklin, and Ripley counties.

***Asclepias latifolia* (Torr.) Raf.**

Asclepias Jamesii Torr.

Prairies. Introduced in Jackson Co. Sometimes confused with *Asclepias hemistriata* which it resembles.

***Asclepias quadrifolia* Jacq.**

Rocky open woods. Oxyophile to circumneutral. Eastern, middle, and southern Mo.: Schuyler, Marion, Ralls, Monroe, Pike, Boone, Callaway, Cole, St. Louis, Jefferson, Franklin, St. Francois, Bollinger, Wayne, Iron, Madison, Ripley, Shannon, Texas, Phelps, Maries, Wright, Greene, Christian, Taney, Stone, Lawrence, Barry, Jasper, Newton, and McDonald counties.

***Asclepias perennis* Walt.**

Low wet woods and borders of bayous. Circumneutral. Southeastern Mo.: Mississippi, New Madrid, Pemiscot, Dunklin, Stoddard, Butler, and Ripley counties.

***Asclepias verticillata* L. Whorled Milkweed.**

Dry prairies, glades, and rocky bluffs. Circumneutral to oxyophile. General, but commonest in northern and central Mo.

***Asclepias stenophylla* Gray.**

Acerates angustifolia (Nutt.) Dene. (B & B).

Dry prairies, glades, and rocky bluffs. Calciphile to circumneutral. General but scattered: Pike, Lincoln, St. Charles, Jefferson, Pulaski, Hickory, Dallas, Ozark, Greene, Stone, Barry, Jackson, and Jasper counties.

***Acerates hirtella* Pennell, Bull. Torr. Bot. Club 46: 184-185. 1919.**

Acerates floridana of auth., not *Asclepias floridana* Lam. (G), (B & B).

Rocky prairies and glades. Circumneutral to oxyophile. General.

***Acerates viridiflora* Ell. Green Milkweed.**

Rocky prairies and glades. Circumneutral. General.

***Acerates viridiflora* var. *lanceolata* (Ives) Gray.**

In similar situations to the preceding. Circumneutral. General but scattered: Boone, Callaway, St. Louis, Jefferson, Washington, Phelps, Howell, Pettis, Cedar, Atchison, Jackson, Jasper, and McDonald counties.

***Asclepias viridiflora* var. *linearis* Gray.**

Sometimes found with the typical form. Scattered: Ste. Genevieve, Pulaski, Saline, Atchison, Holt, Buchanan, and Greene counties.

***Gonolobus laevis* Michx. Angle-pod, Sand Vine.**

Moist alluvial woods, thickets, and cultivated fields. Circumneutral to oxyophile. General.

***Vincetoxicum gonocarpus* Walt.**

Rocky woods and thickets along streams. Circumneutral. Southern Mo.: Mississippi, Dunklin, Ripley, Ozark, Barry, and Jasper counties.

Vincetoxicum obliquum (Jacq.) Britton.

Rocky woods and thickets. Circumneutral. Eastern Mo., south of the Missouri River: St. Louis, Madison, and Shannon counties.

Vincetoxicum carolinense (Jacq.) Britton. Climbing Milkweed.

Rocky open woods, thickets, and glades. Circumneutral to oxyophile. Central and southern Mo.: Warren, St. Louis, Jefferson, Franklin, St. Francois, Washington, Ste. Genevieve, Wayne, Carter, Ripley, Shannon, Dent, Phelps, Miller, Howell, Douglas, Wright, Benton, Greene, Barry, Jasper, and Newton counties.

Vincetoxicum Baldwinianum (Sweet) Britton.

Open woods and thickets along streams. Circumneutral. Southern Mo.: Phelps, Shannon, Taney, Stone, Lawrence, Barry, Jasper, Newton, and McDonald counties.

Fam. CONVOLVULACEAE

Evolvulus argenteus Pursh.

Glades and bald knobs. Calciphile to circumneutral. East-central and southern Mo.: Montgomery, St. Louis, Jefferson, Franklin, Washington, Ripley, Oregon, Shannon, Douglas, Ozark, Taney, Greene, Stone, and Barry counties.

Evolvulus alsinoides L.

Rocky open ground. Local: St. Louis Co. Probably introduced.

IPOMOEA Coccinea L. Red Morning Glory.

Fields, banks of streams, and waste ground. Indifferent. Scattered: Monroe, Boone, Cole, St. Louis, Scott, Reynolds, Greene, Jackson, and Jasper counties.

IPOMOEA QUAMOCITL L. Cypress Vine.

Cultivated and rarely escaped into waste ground. Greene Co.

Ipomoea pandurata (L.) G. F. W. Mey. Man-of-the-earth.

Fields, thickets, and waste ground. Circumneutral. General: St. Louis, Franklin, Jefferson, Morgan, Benton, Greene, and Jasper counties.

Ipomoea pandurata var. *rubescens* Chois. See Rh. 20: 65. 1918.

Similar situations to the preceding. Circumneutral. General. This is the common form in Missouri.

Ipomoea lacunosa L. Small White Morning Glory, Bindweed.

Thickets, roadsides, waste ground, and alluvial soils along streams and sloughs. Circumneutral. General: Linn, Boone, Lincoln, St. Charles, St. Louis, Jefferson, Madison, Scott, Mississippi, New Madrid, Pemiscot, Osage, Clay, Andrew, Jackson, Cass, Johnson, Vernon, Greene, Jasper, and Newton counties.

IPOMOEA PURPUREA (L.) Roth. Common Morning Glory.

Cultivated fields and waste ground. Indifferent. General, and probably in every county.

IPOMOEA HEDERACEA Jacq. Blue Morning Glory.

Cultivated fields and waste ground. Indifferent. General, and probably in every county.

Convolvulus spithameus L. Dwarf Morning Glory.

Rocky open woods and banks. Circumneutral. Eastern and central Mo.: Clark, St. Louis, Washington, Iron, and Jackson counties.

Convolvulus sepium L. Hedge Bindweed.

Fields, roadsides, and waste ground. Indifferent. General.

Convolvulus sepium var. pubescens (Gray) Fernald.

In similar situations to the preceding. Scattered: Schuyler, Scotland, Marion, Ralls, Monroe, St. Louis, Clay, Jackson, and Jasper counties.

Convolvulus sepium var. fraterniflorus Mack. & Bush.

Waste and cultivated ground. Indifferent. Central and southern Mo.: St. Louis, Jefferson, Osage, Jackson, Cass, and Jasper counties.

CONVOLVULUS ARvensis L. Small Bindweed.

Open banks, roadsides, and waste ground. Circumneutral. General.

CONVOLVULUS ARvensis var. OBTUSIFOLIUS Chois.

Occasionally found with the typical form. Scattered: Schuyler, St. Louis, Washington, Iron, and Jackson counties.

CONVOLVULUS JAPONICUS Thunb. Japanese Morning Glory, German Rose.

Roadsides and waste ground about dwellings. Escaped from cultivation. Scattered: St. Louis, Platte, Jackson, and Johnson counties.

Cuscuta Polygonorum Engelm. Smartweed Dodder.

Cuscuta obtusifolia HBK. (G).

Moist ground along streams and ponds, prairies, and thickets; on species of *Polygonum* and other herbs. General.

Cuscuta pentagona Engelm. See Univ. Ill. Biol. Monogr. 6²⁻³: 50. 1921. Field Dodder.

Cuscuta arvensis Beyrich (G), (B & B).

Thickets, prairies, and glades; on various herbs, especially Compositae. General.

Cuscuta pentagona var. calycina Engelm.

Occasionally found with the typical form. Jackson Co.

Cuscuta Cephalanthi Engelm.

Moist ground, thickets, and low woods; on various herbs and shrubs. General.

Cuscuta Coryli Engelm. Hazel Dodder.

Thickets and open ground, on herbs and shrubs, often on hazel. General but scattered: Knox, Montgomery, St. Louis, Gasconade, Jackson, Polk, Stone, Barry, Jasper, and McDonald counties.

Cuscuta Gronovii Willd. var. vulgivaga Engelm. See Univ. Ill. Biol. Monogr. 6²⁻³: 65. 1921. Love-vine, Dodder.

Cuscuta Gronovii of auth., in part, not Willd. (G), (B & B).

Moist ground, thickets and prairies; on various herbs and shrubs. General.

Cuscuta cuspidata Engelm.

Low open woods, and borders of prairie streams; on *Ambrosia* and various other herbs and shrubs. Central and southern Mo.: St. Louis, Jefferson, Iron, Wayne, Dunklin, Greene, Jackson, and Jasper counties.

Cuscuta glomerata Chois.

Wet ground, prairie swales, and along small streams; on Compositae and other tall herbs. General.

Cuscuta compacta Juss.

Wet ground, low open woods and thickets; usually on shrubs. Eastern and southern Mo., south of the Missouri River: St. Louis, Jefferson, Franklin, Scott, New Madrid, Iron, Reynolds, Carter, Shannon, Howell, and Douglas counties.

Fam. POLEMONIACEAE

Phlox amplifolia Britton. See *Bartonia* 15: 15. 1933.

Rocky wooded hillsides. Circumneutral. Eastern Mo., south of the Missouri River: St. Louis and Reynolds counties.

Phlox paniculata L.

Moist woods and thickets, and gravel bars and banks along streams. Circumneutral. Central and southern Mo. south and east of a line from St. Louis, Warren, Montgomery, Cole, Camden, and Hickory to Vernon Co., and also locally north in Marion, Jackson, and Holt counties.

Phlox maculata L. var. *odorata* (Sweet) Wherry, *Bartonia* 14: 26. 1932. Wild Sweet William.

Rich moist woods. Circumneutral. Southeastern Mo., local: Iron Co.

Phlox glaberrima L. var. *melampyrifolia* (Salisb.) Wherry, *Bartonia* 14: 19. 1932.

Prairies and open woods. Circumneutral. Southeastern Mo.: Bollinger, Scott, Dunklin, Butler, Wayne, Iron, and Ripley counties.

Phlox glaberrima var. *interior* Wherry, *Bartonia* 14: 19. 1932.

Low open ground. Circumneutral. East-central Mo.: St. Louis and Jefferson counties.

Phlox pilosa L. var. *virens* (Michx.) Wherry, *Bartonia* 12: 47. 1931.

Rocky open woods, thickets, and prairies. Circumneutral to oxylophile. Eastern, central, and southern Mo., commonest in the Ozark region.

Phlox pilosa var. *fulgida* Wherry, *Bartonia* 12: 47. 1931.

Rocky open woods, thickets, and prairies. Circumneutral to oxylophile. Northern and western Mo.: Lewis, Marion, Ralls, Monroe, Shelby, Randolph, Macon, Adair, Putnam, Mercer, Daviess, Nodaway, Atchison, Platte, Jackson, Cass, and Vernon counties.

Phlox pilosa var. *fulgida* f. *albiflora* (MacM.) Standley, Rh. 34: 176. 1932.

Occasionally found with the typical form. Scattered: Shelby, Adair, Marion, Randolph, Macon, and Putnam counties.

Phlox pilosa var. *ozarkana* Wherry, Am. Midl. Nat. 16: 413-416. 1935.

Open rocky woods. Oxylophile to circumneutral. Southern and east-central Mo.: St. Louis, Jefferson, Iron, Carter, Wayne, Shannon, Texas, Christian, Wright, Barry, and McDonald counties.

Phlox divaricata L. var. *Laphamii* Wood. Blue Phlox, Wild Sweet William.

Rich or rocky woods and thickets. Circumneutral. General.

Phlox bifida Beck.*Phlox stellata* Gray (G), (B & B), in part.

Rocky woods and open banks. Oxylophile to circumneutral. Scattered in southern Mo., and locally north in Randolph Co.: Randolph, Madison, Iron, Reynolds, Douglas, and Taney counties.

Phlox Drummondii Hook.

Introduced along railway. Southeastern Mo., local: Dunklin Co.

Gilia rubra (L.) Heller. Standing Cypress.

Plains and waste ground. Calciphile to circumneutral. Cultivated and escaped, except in northeastern Mo., where possibly native. Scattered: Clark, Holt, and Greene counties.

Collomia linearis Nutt. See Rh. 23: 288. 1921.

Gilia linearis (Nutt.) Gray (G).

Meadows and along bluffs. Circumneutral. Northeastern Mo., local: Marion Co.

Polemonium reptans L. Jacob's Ladder, Greek Valerian.

Rich alluvial or rocky woods and thickets. Circumneutral. General.

Fam. HYDROPHYLACEAE**Hydrophyllum canadense** L. Waterleaf.

Rich woods and moist shaded hillsides. Circumneutral. Eastern Mo.: Warren, Franklin, St. Louis, Jefferson, and Stoddard counties.

Hydrophyllum virginianum L.

Rich moist woods and thickets and alluvial ground along streams. Circumneutral. General.

Hydrophyllum appendiculatum Michx. Woollen Breeches.

Rich woods and thickets. Circumneutral to calciphile. General but scattered: Schuyler, Adair, Macon, Lewis, Marion, Ralls, Pike, Randolph, Boone, Callaway, Warren, St. Charles, St. Louis, Jefferson, Franklin, Washington, St. Francois, Ste. Genevieve, Perry, Stoddard, Wayne, Dent, Reynolds, Oregon, Phelps, Pulaski, Cole, Camden, Laclede, Dallas, Morgan, Greene, Stone, Barry, Grundy, Platte, Clay, Jackson, Lafayette, and Cass counties.

Nemophila microcalyx (Nutt.) Fisch. & Mey.

Moist open woods. Circumneutral. Southeastern Mo.: Dunklin and Butler counties.

Ellisia Nyctelea L.

Moist woods, thickets, alluvial soils, and cultivated or waste ground. Circumneutral. General but scattered: Mercer, Schuyler, Shelby, Marion, Randolph, Boone, Cooper, Cole, Lincoln, St. Louis, Jefferson, Franklin, Wayne, Shannon, Phelps, Pulaski, Laclede, Texas, Howell, Saline, Grundy, Daviess, Platte, Clay, Jackson, Cass, Henry, Polk, Greene, Barry, Jasper, and McDonald counties.

Phacelia bipinnatifida Michx.

Rich rocky woods and banks. Circumneutral. Eastern and middle Mo., south of the Missouri River: St. Louis, Jefferson, Crawford, Shannon, Carter, Phelps, Pulaski, and Texas counties.

Phacelia Purshii Buckley. Miami Mist.

Moist open woods, alluvial thickets, and along rocky banks, bluffs, and open places. Circumneutral to calciphile. Eastern and middle Mo. and scattered southwestward, mostly south of the Missouri River: Boone, Callaway, Cole, Montgomery, Warren, Lincoln, St. Louis, Jefferson, Franklin, Washington, St. Francois, Ste. Genevieve, Madison, Bollinger, Iron, Wayne, Reynolds, Carter,

Ripley, Shannon, Gasconade, Maries, Osage, Crawford, Dent, Oregon, Phelps, Pulaski, Ozark, Miller, Camden, Laclede, and Cedar counties, and also introduced in Jackson Co.

Phacelia hirsuta Nutt.

Rocky prairies, glades, ledges along bluffs, low rich woods, and alluvial ground along streams. Calciphile to circumneutral. Southern Mo.: Shannon, Oregon, Douglas, Wright, Webster, Ozark, Greene, Stone, Lawrence, Barry, Jasper, Newton, and McDonald counties. This has frequently been confused with *Phacelia dubia*, an eastern species not known in Missouri.

Hydrolea ovata Nutt.

Swamps and bayous. Circumneutral to oxyophile. Southeastern Mo.: Dunklin and Butler counties.

Hydrolea affinis Gray.

Swampy woods, sloughs, and bayous. Circumneutral to oxyophile. Southeastern Mo.: Cape Girardeau, Bollinger, Stoddard, New Madrid, Dunklin, Butler, and Ripley counties.

Fam. BORAGINACEAE

Heliotropium tenellum (Nutt.) Torr.

Rocky prairies and glades. Calciphile to circumneutral. Eastern, central, and southern Mo., mostly in the Ozark region: Ralls, Montgomery, St. Charles, St. Louis, Jefferson, Franklin, Washington, St. Francois, Ste. Genevieve, Iron Reynolds, Ripley, Shannon, Dent, Osage, Maries, Phelps, Pulaski, Camden, Laclede, Wright, Douglas, Ozark, Taney, Stone, Greene, Polk, Hickory, Dallas, Barry, Jasper, and McDonald counties.

HELIOTROPIUM INDICUM L. Indian Heliotrope.

Low moist alluvial woods and waste ground. Central and southern Mo.: Lincoln, St. Charles, St. Louis, Jefferson, Perry, Cape Girardeau, Bollinger, Scott, Mississippi, New Madrid, Pemiscot, Dunklin, Butler, Ripley, Oregon, Shannon, Reynolds, Gasconade, Osage, Maries, Jackson, Henry, Greene, Taney, Stone, Barry, and McDonald counties.

Cynoglossum officinale L. Hound's Tongue.

Fields and rocky waste ground. Circumneutral to oxyophile. Central and southern Mo.: Ralls, Pike, Lincoln, Warren, St. Louis, Jefferson, Washington, St. Francois, Madison, Dent, Carter, Iron, Reynolds, Shannon, Oregon, Boone, Jackson, Greene, and Taney counties.

Cynoglossum virginianum L. Wild Comfrey.

Rich or rocky woods and alluvial thickets. Circumneutral. Central and southern Mo.: Boone, Cole, Warren, St. Louis, Jefferson, Franklin, Washington, St. Francois, Ste. Genevieve, Cape Girardeau, Bollinger, Madison, Wayne, Iron, Reynolds, Dunklin, Ripley, Oregon, Dent, Osage, Greene, Shannon, and Barry counties.

Lappula virginiana (L.) Greene. Beggar's Lice.

Open woods, thickets, and waste ground. Circumneutral. General.

Lappula Redowskii (Hornem.) Greene var. *occidentalis* (Wats.) Rydb.

Waste ground along railroads. Introduced from farther west. Jackson Co.

LAPPULA ECHINATA Gilib. Stickseed.

Waste and cultivated ground. Indifferent. General but scattered: Marion, St. Louis, St. Francois, Iron, Dent, Atchison, Jackson, and Barry counties.

Amsinckia lycopsoides Lehm.

Introduced along railroads. Jackson Co.

SYMPHYTUM OFFICINALE L. Comfrey.

Waste ground and along railways. Escaped from cultivation. Washington and Jackson counties.

Myosotis virginica (L.) BSP. Scorpion Grass.

Open woods, prairies, and waste ground. Circumneutral. General.

Myosotis virginica var. *macroperma* (Engelm.) Fernald.

In similar situations to the typical form. Southern Mo., scattered: Dunklin, Shannon, and Jasper counties.

MYOSOTIS SCIRPOIDES L. Forget-me-not.

Shaded ground along spring branch. Introduced in St. Louis Co.

Mertensia virginica L. Bluebells, Virginia Cowslip.

Moist rich woods and slopes, sometimes on low rocky slopes and bluffs, usually in alluvial soils. Circumneutral to calciphile. General: Knox, Adair, Marion, Pike, Audrain, Callaway, Warren, St. Louis, Jefferson, Franklin, St. Francois, Madison, Wayne, Washington, Bollinger, Texas, Pulaski, Miller, Daviess, Sullivan, Grundy, Clay, Jackson, Johnson, Laclede, Greene, Christian, Taney, and Stone counties.

LITHOSPERMUM ARVENSE L. Corn Gromwell.

Fields, waste ground, and along roadsides and railroads. Indifferent. General.

Lithospermum latifolium Michx.

Rich woods and thickets. Circumneutral. Scattered: St. Louis and Jackson counties.

Lithospermum carolinense (Walt.) MacM. See Rh. 17: 131. 1915.

Lithospermum Gmelini (Michx.) Hitchc. (G).

Prairies and thickets. Oxylophile. Northern and east-central Mo., scattered: St. Louis, Jefferson, and Nodaway counties.

Lithospermum canescens (Michx.) Lehm. Orange Puccoon.

Rocky open woods, glades, and prairies. Calciphile to circumneutral. General, but commonest in the Ozark region.

Lithospermum angustifolium Michx. Yellow Puccoon.

Dry open woods, glades, and prairies. Calciphile to circumneutral. General but scattered: Clark, Boone, St. Louis, Jefferson, Washington, Iron, Dent, Shannon, Pemiscot, Miller, Camden, Randolph, Atchison, Holt, Buchanan, Clay, Jackson, Cass, Carroll, Pettis, Cedar, Greene, Stone, Vernon, Jasper, and Newton counties.

Onosmodium occidentale Mack. False Gromwell.

Rocky prairies, glades, thickets, and loess hills. Circumneutral. General.

Onosmodium occidentale var. *sylvestre* Mack.

Open woods and thickets. Circumneutral. Scattered: St. Louis and Jackson counties.

Onosmodium hispidissimum Mack.

Dry rocky prairies, thickets, and glades. Circumneutral. Central and western Mo.: St. Louis, Jefferson, Franklin, Randolph, Boone, Holt, Clay, Jackson, and Jasper counties.

Onosmodium hispidissimum var. macrospermum Mack. & Bush.

Rich woods and moist prairies. Circumneutral. Western Mo., local: Jackson Co.

Onosmodium subsetosum Mack. & Bush.

Dry rocky prairies, thickets, and glades. Circumneutral to calciphile. Central and southern Mo.: Boone, St. Louis, Jefferson, Washington, St. Francois, Ste. Genevieve, Dent, Shannon, Texas, Phelps, Miller, Camden, Greene, Christian, Douglas, Ozark, Stone, Barry, and Jasper counties.

ECHIUM VULGARE L. Blue-weed.

Waste ground, gravel bars, and roadsides. Calciphile. Scattered: Marion, Ralls, St. Louis, Jefferson, St. Francois, Reynolds, Shannon, Clay, and Jackson counties.

Fam. VERBENACEAE**Verbena urticifolia L. White Verbain.**

Fields, roadsides, and waste ground. Indifferent. General.

Verbena simplex Lehm. See Ann. Mo. Bot. Gard. 20: 282. 1933.

Verbena angustifolia Michx., not Mill. (G), (B & B).

Prairies, fields, and glades. Calciphile to circumneutral. Eastern, central, and southern Mo., south and east of a line drawn from Marion and Boone counties to Jackson Co.

Verbena hastata L. Blue Verbain.

Low open woods, wet prairies, fields, and waste ground. Circumneutral. General, but commonest in northern and central Mo.

Verbena stricta Vent.

Prairies, thickets, glades, and waste ground. Circumneutral. General.

Verbena bracteata Lag. & Rodr. See Ann. Mo. Bot. Gard. 20: 304. 1933.

Verbena bracteosa Michx. (G), (B & B).

Fields, roadsides, and waste ground. Circumneutral. General.

Verbena bipinnatifida Nutt.

Along railroads and in waste ground. Introduced from farther west. Jackson Co.

Verbena canadensis (L.) Britton. Wild Verbena.

Prairies, fields, glades, and rocky slopes. Calciphile to circumneutral. General, but commonest in central and southern Mo.

Verbena simplex × stricta.

Occasionally found with the parent species. St. Louis, Jefferson, Franklin, Phelps, Greene, Barry, and Jasper counties.

Verbena bracteata × stricta

Occasionally found with the parent species. Jasper Co.

Lippia lanceolata Michx. var. *recognita* Fernald & Griscom, Rh. 37: 178. 1935.
Fog-fruit.

Prairie swales, ditches, and borders of ponds and streams. Circumneutral to calciphile. General. Typical *Lippia lanceolata* is found along the coastal plain and does not reach Missouri.

Lippia nodiflora (L.) Michx.

Low swampy woods. Circumneutral. Southeastern Mo., local: Dunklin Co.

Fam. LABIATAE

Teucrium canadense L. var. *virginicum* (L.) Eat. See Rh. 35: 395. 1933.

Teucrium canadense of auth., not L. (G), (B & B).

Thickets, fields, and waste ground. Circumneutral. General.

Teucrium occidentale Gray.

Prairies. Circumneutral. Western Mo., local: Jackson Co. Perhaps introduced.

Isanthus brachiatus (L.) BSP. False Pennyroyal.

Rocky banks, prairies, and glades. Circumneutral to calciphile. General but scattered: Clark, Macon, Boone, Montgomery, St. Charles, St. Louis, Crawford, St. Francois, Bollinger, Reynolds, Shannon, Oregon, Texas, Dent, Ozark, Pulaski, Laclede, Dallas, Jackson, Barry, Jasper, Newton, and McDonald counties.

Trichostema dichotomum L. Blue Curls.

Rocky open woods and glades. Oxyophile. Eastern and middle Mo., mostly in the eastern Ozark region: Montgomery, St. Louis, Jefferson, Ste. Genevieve, St. Francois, Iron, Wayne, Dunklin, Reynolds, Crawford, Phelps, Shannon, Texas, and Howell counties.

Scutellaria lateriflora L. Mad-dog Skulcap.

Wet woods and borders of streams. Circumneutral. General but scattered: Marion, Boone, Lincoln, St. Charles, St. Louis, Jefferson, St. Francois, Perry, Bollinger, Mississippi, New Madrid, Pemiscot, Dunklin, Butler, Ripley, Carter, Reynolds, Iron, Pulaski, Oregon, Howell, Dallas, Greene, Taney, Atchison, Buchanan, Clay, Jackson, Cass, Jasper, and McDonald counties.

Scutellaria lateriflora f. *rhodantha* Fernald, Rh. 23: 86. 1921.

Occasionally found with the common form of the species.

Scutellaria ovata Hill. See Contr. U. S. Nat. Herb. 22: 734. 1927.

Scutellaria versicolor Nutt. (G).

Scutellaria cordifolia Muhl. (B & B).

Rocky open woods, bluffs, and glades. Calciphile to circumneutral. General.

Scutellaria ovata var. *pilosior* (Benth.) Leonard, Contr. U. S. Nat. Herb. 22: 735. 1927.

Scutellaria versicolor var. *minor* Chapm.

Rocky bluffs and ledges. Central and southern Mo.: St. Louis, Iron, Maries, Phelps, Pulaski, Laclede, Ozark, Taney, and Barry counties.

Scutellaria ovata var. *bracteata* (Benth.) Blake, Rh. 17: 134. 1915; also U. S. Nat. Herb. 22nd: 735. 1927.

Rocky open or shaded ground. Circumneutral to calciphile. East-central and southern Mo., scattered: St. Louis and Barry counties.

Scutellaria montana Chapm. See Contr. U. S. Nat. Herb. 22nd: 740. 1927.

Rocky open woods. Circumneutral. Southeastern Mo., local: Iron Co. This has been confused with *Scutellaria serrata*, a species not known to occur in Mo.

Scutellaria incana Spreng. See Contr. U. S. Nat. Herb. 22nd: 743. 1927.

Scutellaria canescens Nutt. (G.).

Rocky open woods and thickets. Circumneutral. East-central and southern Mo.: Balls, Pike, Lincoln, Warren, St. Louis, Jefferson, St. Francois, Perry, Cape Girardeau, Iron, Wayne, Bollinger, Butler, Ripley, Oregon, Carter, Reynolds, Shannon, Texas, Dent, Maries, Phelps, Pulaski, Miller, Howell, Douglas, Hickory, Greene, Stone, Jasper, Newton, and McDonald counties.

Scutellaria punctata (Chapm.) Leonard.

Scutellaria canescens var. *punctata* Chapm.

Rocky open woods and thickets. Circumneutral. Southern Mo.: Iron, Reynolds, Texas, Douglas, Howell, and Ozark counties.

Scutellaria ovalifolia Pers. See Contr. U. S. Nat. Herb. 22nd: 741. 1927.

Scutellaria pilosa Michx., not Hill (G.), (B & B).

Rocky woods and bluffs. Circumneutral to oxylophile. Southern Mo.: Ste. Genevieve, Iron, Ripley, Wayne, Reynolds, Shannon, Texas, Laclede, Wright, Ozark, Stone, and Barry counties.

Scutellaria epilobifolia Hamilton. See Contr. U. S. Nat. Herb. 22nd: 723-724. 1927; and Rh. 23: 85. 1921.

Scutellaria galericulata of Am. auth., not L. (G.), (B & B).

Low wet woods. Circumneutral. Western Mo., local: Jackson Co.

Scutellaria Bushii Britton.

Glades and bald knobs. Calciphile. Southern Mo.: Carter, Dent, Shannon, Pulaski, Douglas, and Ozark counties.

Scutellaria parvula Michx.

Rocky prairies and glades. Circumneutral. General but commonest in the Ozark region.

Scutellaria parvula var. *ambigua* (Nutt.) Fernald.

Frequently found with the typical form. General but scattered, and commoner in northern and central Mo.

Scutellaria nervosa Pursh.

Rich moist woods and thickets. Circumneutral. Eastern and middle Mo.: Schuyler, Shelby, Boone, Lincoln, St. Charles, St. Louis, Cape Girardeau, Pemicoet, and Dunklin counties.

MARRUBIUM VULGARE L. Horehound.

Fields, roadsides, and waste ground, especially about old dwellings. Indifferent. General and probably in every county.

Agastache nepetoides (L.) Ktze. Giant Hyssop.

Thickets and borders of woods. Circumneutral. General.

Agastache scrophulariaefolia (Willd.) Ktze.

Thickets, open woods, and alluvial ground. Circumneutral. Northern and west-central Mo.: Scotland, Mereer, Jackson, and Cass counties.

***Agastache scrophulariaefolia* var. *mollis* (Fernald) Heller.**

Similar situations to the preceding. Circumneutral. Scattered in northern and west-central Mo.: Scotland and Jackson counties.

***NEPETA CATARIA* L. Catnip.**

Fields, roadsides, and waste ground about old dwellings. Indifferent. General and probably in every county.

***NEPETA HEDERACEA* (L.) Trevisan. See Rh. 23: 289. 1921. Ground Ivy, Gill-over-the-ground.**

Fields, waste ground, and open banks. Planted in old gardens and freely escaping. Indifferent. Scattered in eastern Mo.: Marion, Pike, and St. Louis counties. The typical form of *Nepeta hederacea* with larger flowers is not as common in Missouri as the next following.

***NEPETA HEDERACEA* var. *PARVIFLORA* Benth. See Rh. 23: 289. 1921.**

Similar situations to the preceding, and more common. Indifferent. General.

***Dracocephalum parviflorum* Nutt. Dragon Head.**

Along railroads and in waste ground. Escaped from cultivation. Indifferent. Scattered: St. Louis and Jackson counties.

***PRUNELLA VULGARIS* L. Self-heal, Heal-all.**

Thickets, fields, and waste ground. Circumneutral. General.

***Prunella vulgaris* var. *lanceolata* (Barton) Fernald, Rh. 15: 183. 1913.**

Low woods, thickets, and along streams. In similar situations to the typical form. General.

***Prunella vulgaris* var. *lanceolata* f. *iodacalyx* Fernald, Rh. 15: 184. 1913.**

Occasionally found with the typical form. Scattered: Ralls, St. Louis, Franklin, Stone, and Jasper counties.

***Physostegia virginiana* (L.) Benth. Obedient Plant, False Dragon-head.**

Moist ground, along prairie streams, and in glades. Circumneutral. General.

***Physostegia intermedia* (Nutt.) Engelm. & Gray.**

Low wet woods and swamps. Circumneutral. Southeastern Mo.: Dunkin, Butler, and Ripley counties.

***Physostegia formosa* Lunell, Bull. Leeds Herb. 2: 7. 1908.**

Rocky open ground. Circumneutral. Central and southern Mo., scattered: St. Louis, Iron, Jackson, and Cass counties.

***LAMIUM AMPLEXICAULE* L. Henbit.**

Lawns, meadows, and cultivated or waste ground. Indifferent. General.

***LAMIUM PURPUREUM* L. Dead Nettle.**

Roadsides and waste ground. Indifferent. Scattered: St. Charles, St. Louis, Saline, Barry, Jasper, and Jackson counties.

***LEONURUS CARDIACA* L. Motherwort.**

Fields, roadsides, and waste ground about dwellings. Indifferent. General.

***Stachys tenuifolia* Willd. Hedge Nettle.**

Rich woods, thickets, and roadsides. Circumneutral. General.

***Stachys aspera* Michx.**

Low moist ground. Circumneutral. Local: St. Louis Co.

Stachys hispida Pursh.

Stachys tenuifolia Willd. var. *aspera* of auth., not *S. aspera* Michx. (G).

Stachys aspera of auth., not Michx. (B & B).

Low alluvial ground. Circumneutral. Northern, central, and eastern Mo.: Perry, Audrain, Ralls, Sullivan, Worth, Clay, and Jackson counties.

Stachys palustris L.

Thickets and moist ground along prairie streams. Circumneutral. Northern Mo., local: Daviess Co.

Stachys ambigua Sm.

Stachys palustris of auth. in part, not L.

Open or moist ground along streams. Circumneutral. General but scattered: Clark, Scotland, Knox, Adair, St. Charles, St. Louis, New Madrid, Pemiscot, Putnam, Atchison, Holt, Andrew, Ray, and Jackson counties.

Salvia lyrata L. Cancer-weed.

Rich or rocky woods, thickets, and moist open ground. Circumneutral to xerophytic. East-central and southern Mo., commonest in the eastern Ozark region: St. Louis, Jefferson, Washington, St. Francois, Ste. Genevieve, Perry, Bollinger, Madison, Iron, Wayne, Butler, Dunklin, Ripley, Carter, Oregon, Shannon, Texas, Howell, Douglas, Taney, and Barry counties.

Salvia azurea Lam. var. *grandiflora* Benth. Blue Sage.

Rocky prairies, roadsides, and glades. Circumneutral to calciphile. West-central and southwestern Mo.: Jackson, Cass, Johnson, Henry, Greene, Ozark, Taney, Stone, Barry, Barton, Jasper, Newton, and McDonald counties, and also introduced in St. Louis Co.

Salvia lanceolata Poir.

Plains, fields, and waste ground. Indifferent. Perhaps native in northwestern Mo., but introduced in most of the state. General but scattered: Monroe, Marion, Montgomery, Warren, St. Charles, St. Louis, Mississippi, Stoddard, Ripley, Texas, Greene, Livingston, Caldwell, Atchison, Holt, Andrew, Gentry, DeKalb, Jackson, Johnson, Jasper, and McDonald counties.

SALVIA SCLAREA L. Clear-eye.

Cultivated and rarely escaped to roadsides and waste ground. St. Louis Co.

Monarda didyma L. Bee Balm.

Moist open woods. Circumneutral. Pike and Clay counties. Probably escaped from cultivation.

Monarda pectinata Nutt.

Along railways and in waste ground. Introduced in Jackson Co.

Monarda fistulosa L. Wild Bergamot.

Rocky prairies, thickets, and roadsides. Circumneutral to calciphile. General but scattered: Schuyler, Scotland, Sullivan, Adair, Marion, Ralls, Randolph, Boone, St. Louis, Jefferson, Ste. Genevieve, St. Francois, Dunklin, Butler, Ripley, Shannon, Maries, Dent, Phelps, Pulaski, Howell, Taney, Barry, Buchanan, Jackson, Barton, Jasper, and McDonald counties.

Monarda fistulosa var. *mollis* (L.) Benth.

Monarda mollis L. (G), (B & B).

Rocky prairies, thickets, and roadsides. Circumneutral. General.

Monarda Bradburiana Beck.

Open rocky woods, thickets, and glades. Circumneutral to calciphile. Eastern, central, and southern Mo., south and east of a line from Marion, Boone, and Benton counties to Jasper Co.

Monarda punctata L. Horse Mint.

Prairies and open ground. Circumneutral to oxylophile. Southeastern Mo., scattered: Scott and Dunklin counties.

Monarda punctata var. villicaulis Pennell, Bull. Torr. Bot. Club 46: 186. 1919.

Sandy open ground. Circumneutral to oxylophile. Eastern Mo., scattered: Clark, Pike, and Dunklin counties.

Monarda punctata var. occidentalis (Epling) Palmer & Steyermark, comb. nov.

Monarda punctata subsp. *occidentalis* Epling, Madroño 3: 25. 1935.

Open ground. Circumneutral. Western Mo., local: Jackson Co.

Monarda citriodora Cerv.

Monarda dispersa Small (B & B).

Rocky prairies, glades, and bald knobs. Calciphile to circumneutral. Central and southwestern Mo.: St. Louis, Boone, Jackson, St. Clair, Greene, Taney, Stone, Barry, Jasper, and McDonald counties.

Blephilia hirsuta (Pursh) Benth. Wood Mint.

Rich open woods and thickets. Circumneutral. General.

Blephilia ciliata (L.) Raf. Ohio Horse Mint.

Open woods and thickets. Circumneutral. General.

Hedeoma pulegioides (L.) Pers. Pennyroyal.

Rocky open woods, thickets, and glades. Circumneutral. General.

Hedeoma hispida Pursh.

Rocky prairies and glades. Circumneutral to oxylophile. General but scattered: Shelby, Boone, Lincoln, St. Louis, Jefferson, Franklin, Washington, St. Francois, Ste. Genevieve, Madison, Iron, Reynolds, Dunklin, Shannon, Dent, Laclede, Wright, Douglas, Webster, St. Clair, Harrison, Platte, Clay, Jackson, Cass, Jasper, and Newton counties.

HEDEOMA ACINIOIDES Scheele.

Waste ground. Introduced in Jasper Co.

Satureja glabra (Nutt.) Fernald. Savory, Calamint.

Rocky open ledges and glades. Calciphile. Central and southern Mo.: St. Louis, Jefferson, St. Francois, Ste. Genevieve, Washington, Iron, Reynolds, Carter, Ripley, Oregon, Shannon, Texas, Phelps, Maries, Pulaski, Miller, Douglas, Wright, Ozark, Taney, Benton, Hickory, St. Clair, Polk, Greene, Stone, Barry, and McDonald counties.

MELISSA OFFICINALIS L. Lemon Balm.

Thickets, roadsides, and waste ground. Indifferent. Central and southern Mo., scattered: Boone, St. Louis, Jefferson, Greene, Stone, Barry, Jackson, Jasper, Newton, and McDonald counties.

Pycnanthemum Torrei Benth.

Dry open ground. Oxylophile. Southeastern Mo.: Dunklin Co.

Pycnanthemum flexuosum (Walt.) BSP. Mountain Mint.

Rocky open woods and thickets. Circumneutral. General and common.

Pycnanthemum pilosum Nutt.

Prairies, thickets, and open woods. Circumneutral. General.

Pycnanthemum virginianum (L.) Durand & Jackson.

Rocky woods, crevices of bluffs, and thickets. Circumneutral to calciphile. Central and southern Mo.: Boone, Audrain, St. Louis, Jefferson, St. Francois, Iron, Butler, Carter, Oregon, Shannon, Texas, Dent, Howell, Saline, Jackson, Benton, Greene, Hickory, Taney, and Stone counties.

Pycnanthemum incanum (L.) Michx.

Rocky open woods. Oxylophile. Southern Mo., scattered: Dunklin, Butler, Ripley, Shannon, and Barry counties.

Pycnanthemum albescens T. & G.

Rocky open woods. Oxylophile. Southern Mo.: Madison, Ste. Genevieve, Perry, Wayne, Dunklin, Butler, Ripley, Dent, Shannon, Phelps, Pulaski, Texas, Howell, Ozark, Douglas, Barry, Newton, and McDonald counties. This has often been confused with the preceding, but is the commoner of the two species.

Pycnanthemum muticum (Michx.) Pers.

Rocky open woods. Circumneutral. Southeastern Mo.: Dunklin and Butler counties.

Osmia origanoides (L.) Britton. Dittany.

Rocky woods. Circumneutral to oxylophile. Central and southern Mo., south and east of a line drawn from Lincoln, Boone, Morgan, and Hickory counties to Jasper Co.

Lycopus virginicus L. Bugle Weed.

Low wet woods and open ground. Circumneutral. General.

Lycopus rubellus Moench. Water Horehound.

Low woods and borders of streams and ponds. Circumneutral. Central and southern Mo.: Boone, St. Louis, Jefferson, Mississippi, Dunklin, Butler, Carter, Shannon, Dent, Texas, Howell, Ozark, Taney, Greene, Barry, Jasper, Newton, and McDonald counties.

Lycopus lucidus Turcz. var. *americanus* Gray.

Lycopus asper Greene (B & B).

Low sandy ground along Missouri River. Oxylophile. West-central Mo., local: Jackson Co.

Lycopus americanus Muhl.

Low wet woods, margins of ponds, and along prairie streams. Circumneutral. General.

MENTHA LONGIFOLIA Huds. See Rh. 26: 171-175. 1924.

Mentha sylvestris L.

Escaped from cultivation to waste ground and roadsides. Indifferent. Scattered: Clay, Jackson, and Jasper counties.

MENTHA ALOPECUROIDES Hull. Woolly Mint.

Waste ground, fields, and roadsides. Indifferent. Introduced in Jackson Co.

MENTHA CARDIACA Gerarde.

Waste ground and borders of springs and brooks. Indifferent. Introduced in Jasper Co.

MENTHA SPICATA L. Spearmint.

Waste ground and roadsides, especially about dwellings. Indifferent. General, but scattered: Ralls, Boone, Franklin, Jefferson, Dunklin, Dent, Shannon, Phelps, Howell, Cedar, Greene, Stone, Jasper, and Newton counties.

MENTHA PIPERITA L. Peppermint.

Waste ground and margins of springs or spring branches. Circumneutral. General.

MENTHA CITRATA Ehrh. Bergamot Mint.

Waste ground and along spring branches. Introduced in Jasper Co.

MENTHA GENTILIS L.

Waste ground. Indifferent. Introduced in Jackson Co.

Mentha arvensis L.

Low ground along streams. Circumneutral. Southeastern Mo., local: Ripley Co.

Mentha arvensis L. var. canadensis (L.) Briq. Corn Mint, Field Mint.

Moist ground along small streams and about springs. Circumneutral. General, but less common than the next. Typical *Mentha arvensis* is rare in Mo.

Mentha arvensis var. glabrata (Benth.) Fernald.

In similar situations to the preceding. Circumneutral. General and common. This is the commonest variety found in Missouri.

Collinsonia canadensis L. Horse Balm.

Rich or rocky woods. Circumneutral to oxylophile. Eastern Ozark region: Iron, Wayne, Reynolds, and Shannon counties.

PERILLA FRUTESCENS (L.) Britton. Beef-steak Plant.

Dry woods, rich or alluvial soil along streams, and waste ground. Circumneutral. Escaped and becoming a troublesome weed along some of the Ozark streams. Eastern, central and southern Mo. north to St. Louis, Montgomery, and Jackson counties.

Fam. SOLANACEAE**SOLANUM DULCAMARA L.** Climbing Nightshade.

Thickets and roadsides. Indifferent. Scattered: Adair, Boone, St. Louis, Jefferson, Jackson, and Greene counties.

Solanum triflorum Nutt.

Waste ground and along railroads. Introduced from farther west. Jackson Co.

Solanum nigrum L. Black Nightshade.

Waste and cultivated ground. Indifferent. General and common.

Solanum carolinense L. Bull or Horse Nettle.

Rocky prairies, roadsides, and waste ground. Circumneutral. General.

Solanum elaeagnifolium Cav. White Horse Nettle.

Rocky prairies, roadsides, and waste ground. Circumneutral. Central and southern Mo.: St. Louis, Butler, Boone, Saline, Jackson, Barry, Jasper, Newton, and McDonald counties. Perhaps native in southwestern Mo. and introduced in other sections.

Solanum Torreyi Gray.

Rocky open ground and along railroads. Circumneutral to oxylophile. Scattered: St. Louis, Iron, Jackson, and Barry counties. Apparently native in southwestern Mo., and introduced elsewhere.

Solanum rostratum Dunal. Buffalo Bur.

Waste ground and roadsides. Indifferent. General. Introduced from the Southwest and recently spreading over the state.

Physalis ixocarpa Brotero. Tomatillo.

Cultivated and occasionally escaped into waste ground. Jackson Co.

Physalis angulata L.

Cultivated and waste ground, usually on alluvial soil. Circumneutral. Scattered: Pemiscot, St. Louis, Henry, and Jasper counties.

Physalis pendula Rydb.

Alluvial cultivated and waste ground. Circumneutral. Western Mo.: Jackson and Jasper counties.

Physalis pubescens L. Ground Cherry.

Cultivated and waste ground, moist open fields and ledges along streams. Circumneutral. Southern and central Mo., north to St. Louis and Jackson counties.

Physalis pruinosa L. Strawberry Tomato.

Rocky open ground, roadsides, rich alluvial and waste ground. Circumneutral. General but scattered: Marion, Ralls, Boone, St. Louis, Wayne, Shannon, Taney, Jackson, Barry, and Jasper counties.

Physalis barbadensis Jacq.

Moist rocky ground along streams, and ledges along bluffs. Circumneutral. Western and southern Mo.: Ozark, Taney, Jackson, and Jasper counties.

Physalis barbadensis var. *obscura* (Michx.) Rydb.

Rich or rocky woods, bluffs, sandy open ground, and banks along streams. Circumneutral. Central and southern Mo.: St. Louis, New Madrid, Dunklin, Butler, Shannon, Taney, Jackson, and Barry counties.

Physalis missouriensis Mack. & Bush.

Rich woods along bluffs and streams. Circumneutral. Eastern, southern, and central Mo.: Marion, Boone, St. Louis, Jefferson, Shannon, Oregon, Greene, Taney, Barry, Platte, Jackson, Jasper, and McDonald counties. This has been confused with *Physalis Lagascae*, a southern species not found in Mo.

Physalis heterophylla Nees.

Roadsides, fields, and waste ground. Circumneutral. General.

Physalis heterophylla var. *ambigua* (Gray) Rydb.

Occasionally found with the typical form. Adair, St. Louis, Boone, and Webster counties.

Physalis heterophylla var. *nyctaginea* (Dunal) Rydb.

Occasionally found with the typical form. Scattered: Scotland, Cole, Miller, Oregon, Jackson, and Greene counties.

Physalis pumila Nutt.

Dry or rocky open ground, prairies, and glades. Circumneutral. General, but scattered: Macon, St. Louis, Phelps, Barry, Greene, Jackson, Clay, Vernon, and Jasper counties.

Physalis subglabrata Mack. & Bush.

Thickets, prairies, and cultivated and waste ground. Circumneutral. General.

Physalis longifolia Nutt.

Fields and waste ground. Circumneutral. Eastern Mo.: Marion and St. Charles counties.

Physalis virginiana Mill. Ground Cherry.

Dry prairies, rocky open woods, thickets, and waste ground. Circumneutral to oxylophilic. General.

Physalis lanceolata Michx.

Prairies and sandy or rocky open ground. Circumneutral. Western Mo., local: Jackson Co.

PHYSALIS PERUVIANA L.

Waste ground. Introduced in St. Louis Co.

LYCOPERSICUM ESCULENTUM Mill. See Rh. 11: 56. 1909. Tomato.

Cultivated and escaping in many places. Scattered: St. Louis, Dunklin, Boone, Jackson, and Jasper counties. Well established along gravel and sand bars of streams and in other situations in some sections.

NICANDRA PHYSALODES (L.) Pers. Apple-of-Peru.

Physalodes physalodes (L.) Britton (B & B).

Cultivated fields and waste ground. Circumneutral. Scattered: Marion, Boone, St. Louis, Crawford, Phelps, Greene, Stone, Jackson, and Newton counties.

LYCIUM HALIMIFOLIUM Mill. Matrimony Vine.

Waste ground, roadsides, and about old dwellings. Indifferent. General but scattered: Shelby, Marion, Boone, St. Louis, Jefferson, St. Francois, Cole, Atchison, Clay, Jackson, Greene, Jasper, and Newton counties.

DATURA STRAMONIUM L. Jimson Weed.

Cultivated and waste ground. Indifferent. General and common.

DATURA TATULA L. Jimson Weed, Purple Thorn Apple.

Cultivated and waste ground. Indifferent. General.

DATURA METEL L.

Waste ground and roadsides. Indifferent. Scattered: Boone, St. Louis, Phelps, Vernon, and Jasper counties.

NICOTIANA RUSTICA L. Wild Tobacco.

Cultivated and waste ground. Indifferent. St. Louis Co.

NICOTIANA LONGIFOLIA Cav.

Cultivated and escaping into waste ground. Indifferent. St. Louis Co.

Fam. SCROPHULARIACEAE**VERBASCUM THAPSUS** L. Mullein.

Pastures, roadsides, and waste ground. Indifferent. General and common.

VERBASCUM BLATTARIA L. Moth Mullein.

Pastures, roadsides, and waste ground. Indifferent. General.

VERBASCUM BLATTARIA f. *ALBIFLORUM* (G. Don) House, N. Y. Mus. Bull. 243-244: 45. 1923.

Commonly found with the typical form. General.

LINARIA VULGARIS Hill. Butter and Eggs.

Fields, waste ground, and along roadsides and railroads. Oxylophile to circumneutral. General.

Linaria canadensis (L.) Dumont var. *texana* (Scheele) Pennell, Proc. Acad. Nat. Sci. Phila. 73: 502. 1921. Blue Toadflax.

Rocky prairies, glades, bluffs, and sandy or cherty open ground. Oxylophile. Eastern, central, and southern Mo.: Marion, Lincoln, Montgomery, Warren, St. Charles, St. Louis, Jefferson, Franklin, Ste. Genevieve, St. Francois, Washington, Crawford, Dent, Shannon, Oregon, Iron, Madison, Bollinger, Scott, Mississippi, Dunklin, Butler, Wayne, Jackson, St. Clair, Polk, Greene, Lawrence, Vernon, Jasper, Newton, and McDonald counties. Typical *Linaria canadensis* has a more eastern range and does not extend to Mo.

LINARIA CYMBALARIA (L.) Mill. Kenilworth Ivy.

Waste ground and roadsides. Indifferent. Introduced in Marion and St. Louis counties.

LINARIA SPURIA (L.) Mill. Cancerwort.

Rocky waste ground, and along sand and gravel bars of streams. Scattered: Boone, Barry, and McDonald counties.

KICKXIA ELATINE (L.) Dumort. See *Torreya* 22: 81-84. 1922. Cancer-root.

Linaria Elatine (L.) Mill. (G).

Waste ground, and along sand and gravel bars of streams. Oxylophile. Central and southern Mo., scattered: St. Louis, Jefferson, Franklin, Gasconade, Perry, Bollinger, Reynolds, Shannon, Oregon, Texas, Laclede, Douglas, Clay, and Jackson counties.

Collomia verna Nutt. Blue-eyed-Mary.

Rich woods and thickets. Circumneutral to calciphile. Central and southern Mo., scattered southward: Warren, St. Charles, St. Louis, Jefferson, St. Francois, Scott, Audrain, Callaway, Boone, Cole, Laclede, Montgomery, Howard, Cooper, Saline, Clay, Jackson, Cass, Johnson, Barry, and McDonald counties.

Collomia violacea Nutt.

Rocky open woods. Circumneutral to oxylophile. Southern Mo.: Jefferson, Dunklin, Benton, Henry, St. Clair, Cedar, Polk, Greene, Bates, Vernon, Jasper, and Newton counties.

Scrophularia marilandica L. Figwort.

Open woods and thickets. Circumneutral. General.

Scrophularia lanceolata Pursh. See *Torreya* 22: 81-84. 1922.

Scrophularia leporella Bicknell (G), (B & B).

Open woods and thickets. Circumneutral. Western Mo., local: Jackson Co.

Pentstemon pallidus Small. Beard-tongue.

Pentstemon canescens of auth., not Britton (G), in part.

Prairies, open woods, and bluffs. Oxylophile to circumneutral.

Pentstemon calycosus Small.

Rocky woods and bluffs. Circumneutral. Eastern and southern Mo., scattered: St. Louis and Texas counties.

Pentstemon tubiflorus Nutt.

Prairies and open woods. Oxylophile to circumneutral. General, but commonest in southwestern Mo., and absent from much of the Ozark region and the southeastern lowlands: Putnam, Marion, Shelby, Monroe, Boone, Franklin, Cape Girardeau, Dunklin, Pulaski, Camden, Laclede, Douglas, Wright, Webster, Greene, Taney, Christian, Barry, Hickory, Clay, Jackson, Vernon, Barton, Jasper, Newton, and McDonald counties.

Pentstemon arkansanus Pennell, Proc. Acad. Nat. Sci. Phila. 73: 493. 1921.

Rocky open woods, bluffs, and glades. Circumneutral to oxylophile. Southern Mo.: Madison, Ozark, Taney, Stone, Barry, Newton, and McDonald counties.

Pentstemon arkansanus var. *pubescens* Pennell, Proc. Acad. Nat. Sci. Phila. 73: 494. 1921.

Occasionally found with the typical form. Barry Co.

Pentstemon Digitalis (Sweet) Nutt.

Pentstemon laevigatus var. *Digitalis* (Sweet) Gray (G).

Open woods, thickets, prairies, and meadows. Circumneutral. General.

Pentstemon grandiflorus Nutt.

Loess hills and plains. Circumneutral to calciphile. Northwestern Mo.: Atchison Co.

Pentstemon Cobaea Nutt. var. *purpureus* Pennell, Proc. Acad. Nat. Sci. Phila. 73: 490. 1921.

Glades and bald knobs. Calciphile to circumneutral. Southwestern Mo.: Ozark, Stone, and Taney counties.

Chelone glabra L. Turtlehead.

Wet rocky or boggy ground along small streams and bluffs. Oxylophile. Southeastern and central Mo.: Boone, St. Louis, Jefferson, Franklin, Bollinger, Stoddard, Dunklin, Butler, Clinton, Clay, and Jackson counties.

Chelone obliqua L. var. *speciosa* Pennell & Wherry, Bartonia 10: 19, pl. 2, fig. 1. 1929.

Swamps and borders of streams. Oxylophile to circumneutral. Northeastern and central Mo.: Lewis and Chariton counties.

PAULOWNIA TOMENTOSA (Thunb.) Steud. Empress Tree.

Planted and occasionally escaped. Marion, Perry, and Ripley counties.

Mimulus ringens L. Monkey Flower.

Bogs, low woods, and borders of streams, commonest in alluvial soils along the larger rivers. Circumneutral. General.

Mimulus alatus Ait.

Bogs, low woods, and borders of streams. Circumneutral. General. Commoner than the preceding species.

Mimulus glabratus HBK. var. *Fremontii* (Benth.) Grant, Ann. Mo. Bot. Gard. 11: 190. 1924.

Wet ledges along bluffs, and about springs. Circumneutral to oxylophile. Southern Mo., scattered: Ste. Genevieve, Greene, and Barry counties.

Leucospora multifida (Michx.) Nutt.

Conobea multifida (Michx.) Benth. (G), (B & B).

Low open woods and fields. Circumneutral. Central and southern Mo.

Mecardonia acuminata (Walt.) Small. Water Hyssop.

Bacopa acuminata (Walt.) Robinson (G).

Low wet woods, swamps, and sloughs. Oxylophile to circumneutral. Southern Mo.: Mississippi, Dunklin, Jasper, and Newton counties.

Macmillaria rotundifolia (Michx.) Raf. See *Torreya* 22: 79. 1922.

Bacopa rotundifolia (Michx.) Wettst. (G).

Bramia rotundifolia (Michx.) Britton (B & B).

Low wet woods, and borders of ponds, sloughs, and streams. Circumneutral to oxylophile. Central and southern Mo., scattered: Boone, Lincoln, St. Charles, St. Louis, Jefferson, Dent, Maries, Ray, Jackson, Cass, Greene, Jasper, Newton, and McDonald counties.

Iysanthes dubia (L.) Barnhart. False Pimpernel.

Low wet woods and borders of sloughs and ponds. Circumneutral. General: Putnam, Marion, Boone, Lincoln, St. Charles, St. Louis, Jefferson, Franklin, Ste. Genevieve, Iron, Mississippi, Dunklin, Butler, Harrison, Buchanan, Clay, Jackson, Bates, Vernon, Greene, Taney, Stone, Jasper, and Newton counties.

Iysanthes inaequalis (Walt.) Pennell, *Torreya* 19: 149. 1919.

Iysanthes anagallidea of auth. in part, not *Gratiola anagallidea* Michx. (G).

Iysanthes dubia of auth., not *Gratiola dubia* L. (B & B).

Wet ground along streams, and borders of ponds and sloughs. Circumneutral to oxylophile. General but scattered: Linn, Monroe, Ralls, Boone, St. Louis, Ste. Genevieve, St. Francois, Mississippi, Dunklin, Buchanan, Jackson, Henry, Greene, Taney, Barton, Jasper, and Newton counties.

Gratiola lutea Raf. See *Rh.* 34: 147. 1932. Clammy Hedge Hyssop.

Gratiola virginiana of auth., not L. (G), (B & B).

Gratiola neglecta Torr.

Low woods and muddy borders of ponds, sloughs, and slow streams. Circumneutral. General.

Gratiola virginiana L. See *Rh.* 20: 65. 1918.

Gratiola sphaerocarpa Ell. (G), (B & B).

Muddy borders of ponds, sloughs, and ditches. Circumneutral. General but scattered: Schuyler, Adair, Shelby, Marion, Monroe, Audrain, Boone, Callaway, St. Louis, Washington, Shannon, Dent, Ripley, Texas, Laclede, Howell, Ozark, Wright, Webster, Linn, Livingston, Saline, Jackson, Benton, Greene, Jasper, and Newton counties.

Veronicastrum virginicum (L.) Farwell, *Drug. Cire.* 61: 231. 1917. Culver's-root.

Veronica virginica L. (G).

Leptandra virginica (L.) Nutt. (B & B).

Open woods and thickets. Circumneutral. General.

Veronicastrum virginicum f. *villosa* (Raf.) Pennell, *Rh.* 23: 6. 1921.

In similar situations to the preceding. Circumneutral. General and commonly occurring with the species.

Veronica serpylifolia L. Thyme-leaved Speedwell.

Swampy woods and waste ground. Circumneutral to oxylophile. Southeastern Mo.: Cape Girardeau, Bollinger, and Stoddard counties.

Veronica peregrina L. Neckweed.

Cultivated and waste ground. Indifferent. General and common.

Veronica peregrina var. *xalapensis* (HBK.) Pennell, Torreya 19: 167. 1919.

Occasionally found with the typical form. Waste ground. Indifferent. Scattered: St. Louis and Pemiscot counties.

VERONICA ARvensis L. Corn Speedwell.

Cultivated and waste ground, and open rocky woods, glades, and ledges along bluffs. Circumneutral to calciphile. General.

Veronica connata Raf. Water Speedwell.

Veronica Anagallis-aquatica of auth. in part, not L. (G), (B & B).

In and along streams and spring branches. Circumneutral to oxylophile. West-central and southern Mo., scattered: Perry, Bollinger, Reynolds, Ripley, Oregon, Shannon, Dent, Camden, Texas, Howell, Laclede, Dallas, Benton, Douglas, Ozark, Barry, and Jackson counties.

Veronica americana Schwein. American Brooklime.

Wet open ground. Indifferent. Local: Boone Co.

Limosella subulata Ives. See Rh. 20: 160. 1918; also Torreya 22: 83-84. 1922.
Mudwort.

Limosella aquatica var. *tenuifolia* of auth., not *L. tenuifolia* Wolf (G).

Limosella aquatica of auth., not L. (B & B).

Sand bars of Missouri River. Local: Jackson Co.

Dasisoma macrophylla (Nutt.) Raf. See Rh. 20: 68. 1918. False Foxglove.

Seymeria macrophylla Nutt. (G).

Afzellia macrophylla (Nutt.) Ktze. (B & B).

Open woods and thickets. Oxylophile. General.

Aureolaria grandiflora (Benth.) Pennell var. *cinerea* Pennell, Proc. Acad. Nat. Sci. Phila. 73: 510. 1921.

Gerardia grandiflora var. *serrata* (Torr.) Robinson, in part (G).

Dasyostoma serrata (Benth.) Small, in part (B & B).

Rocky woods and thickets. Oxylophile. Middle and western Mo., mostly south of the Missouri River: Crawford, Dent, Gasconade, Boone, Moniteau, Miller, Pulaski, Phelps, Benton, Camden, Polk, Greene, Webster, Wright, Douglas, Ozark, Christian, Taney, Stone, Barry, Henry, Cedar, Vernon, Jasper, Newton, and McDonald counties.

Aureolaria grandiflora var. *pulchra* Pennell, Proc. Acad. Nat. Sci. Phila. 80: 392. 1928.

Rich or rocky open woods. Oxylophile. Northeastern and east-central Mo.: Clark, Knox, Macon, Adair, Schuyler, Sullivan, Shelby, Marion, Ralls, Monroe, Lincoln, St. Charles, St. Louis, Jefferson, Franklin, Crawford, Gasconade, and Maries counties.

Aureolaria pectinata (Nutt.) Pennell, Bull. Torr. Bot. Club 40: 414. 1913
Yellow False Foxglove.

Gerardia pedicularis var. *pectinata* Nutt., in part (G).

Dasytoma pectinata (Nutt.) Benth., in part (B & B).

Rocky open woods and borders of glades. Oxylophile. East-central and southern Mo.: St. Louis, Jefferson, Franklin, Iron, Madison, Wayne, Oregon, Shannon, Dent, Crawford, Marion, Pulaski, Texas, Wright, Webster, Greene, Howell, Douglas, Ozark, Stone, and Barry counties.

Aureolaria flava (L.) Farwell var. *macrantha* Pennell, Proc. Acad. Nat. Sci. Phila. 73: 511. 1921.

Gerardia flava L., in part (G).

Dasytoma flava (L.) Wood, in part (B & B).

Rocky woods. Oxylophile. Southern Mo., mainly in the eastern Ozark region: Phelps, Reynolds, Iron, Madison, Wayne, Scott, and Oregon counties.

Aureolaria calycosa (Mack. & Bush) Pennell, Proc. Acad. Nat. Sci. Phila. 73: 512. 1921.

Dasytoma calycosa Mack. & Bush (B & B).

Rocky open woods and borders of glades. Oxylophile. Southern Mo., mostly in the eastern Ozark region: St. Francois, Madison, Bollinger, Cape Girardeau, Iron, Wayne, Carter, Ripley, Shannon, Oregon, Texas, Howell, Douglas, and Ozark counties.

Otophylla auriculata (Michx.) Small. See Rh. 20: 137. 1918.

Gerardia auriculata Michx. (G).

Prairies, thickets, and open woods. Circumneutral to oxylophile. General but scattered: Clark, Adair, St. Louis, Shannon, Ozark, Greene, Barton, Jasper, Newton, and McDonald counties.

Agalinis purpurea (L.) Pennell.

Gerardia purpurea L. (G).

Prairie swales and moist open ground along small streams. Circumneutral to oxylophile. Southern and west-central Mo., scattered: Stoddard, Shannon, Jackson, and Greene counties.

Agalinis aspera (Dougl.) Britton.

Gerardia aspera Dougl. (G).

Prairie swales and moist ground along small streams. Circumneutral. Western Mo., and locally eastward in Crawford Co.: Atchison, Holt, Jackson, Jasper, and Crawford counties.

Agalinis fasciculata (Ell.) Raf.

Gerardia fasciculata Ell. (G).

Prairie swales and borders of woods and thickets. Circumneutral. Southwestern Mo.: Bates, Barton, Jasper, and Newton counties.

Agalinis tenuifolia (Vahl) Raf.

Gerardia tenuifolia Vahl (G).

Prairie swales and moist open banks. Circumneutral to oxylophile. Central and southern Mo.: Boone, St. Louis, Jefferson, Franklin, St. Francois, Dent, Shannon, Carter, Oregon, Jackson, Benton, Christian, and Jasper counties.

Agalinis tenuifolia var. *macrophylla* (Benth.) Blake, Rh. 20: 71. 1918.

Gerardia tenuifolia var. *macrophylla* Benth. (G).

Gerardia Besseyana Britton (B & B).

Prairies and moist open ground. Circumneutral to oxylophile. General. This is the commonest form throughout the state.

Agalinis tenuifolia var. *parviflora* (Nutt.) Pennell, Proc. Acad. Nat. Sci. Phila. 73: 525. 1921.

Prairie swales and open banks. Circumneutral to oxylophile. Middle and western Mo., scattered: Boone, Jackson, Douglas, Greene, and Jasper counties.

Agalinis Gattingeri Small.

Gerardia tenuifolia of auth., not Vahl (G), in part.

Rocky open woods. Oxylophile. Eastern, central, and southern Mo.: Clark, Boone, Osage, Franklin, Crawford, Madison, Iron, Shannon, Texas, Miller, Ozark, Taney, Greene, Barry, Jasper, Newton, and McDonald counties.

Agalinis Skinneriana (Wood) Britton.

Gerardia Skinneriana Wood (G).

Dry open woods and thickets. Oxylophile. West-central and southern Mo.: Iron, Dunklin, Shannon, Taney, Barry, Jackson, Jasper, Newton, and McDonald counties.

Agalinis viridis (Small) Pennell.

Gerardia viridis Small.

Thickets, open banks, and borders of woods. Oxylophile. Southern Mo., scattered: Shannon, Dunklin, and Jasper counties.

Agalinis heterophylla (Nutt.) Small.

Moist sandy open ground. Oxylophile. Southeastern Mo.: Dunklin Co.

Buchnera americana L. Blue Hearts.

Upland prairies and glades. Circumneutral to oxylophile. East-central and southern Mo.: St. Louis, Jefferson, Iron, Dent, Shannon, Ripley, Howell, Greene, Stone, Barton, Jasper, Newton, and McDonald counties.

Castilleja coccinea (L.) Spreng. Indian Blanket, Painted Cup.

Upland prairies, glades, and moist open woods. Circumneutral. General but uncommon in most sections.

Castilleja coccinea f. *lutescens* Farwell, Am. Midl. Nat. 8: 276. 1923.

Occasionally found with the typical form. Washington, Camden, Jasper, and Newton counties.

Castilleja sessiliflora Pursh.

Loess hills and plains. Calciphile. Northwestern Mo.: Atchison and Holt counties.

Castilleja purpurea G. Don.

Rocky open ground. Circumneutral. Southwestern Mo., local: Greene Co.

Pedicularis canadensis L. Wood Betony, Lousewort.

Open woods, thickets, and prairies. Circumneutral to oxylophile. General.

Pedicularis lanceolata Michx.

Wet woods and bogs. Oxylophile. Southern Mo., scattered: Iron, Shannon, Morgan, and Greene counties.

FAM. LENTIBULARIACEAE

Utricularia vulgaris L. var. *americana* Gray. Large Bladderwort.

Sloughs, ponds, and sluggish streams. Circumneutral. General but scattered: Putnam, St. Charles, St. Louis, Jefferson, Reynolds, Butler, Dunklin, Oregon,

Platte, Clay, Jackson, Greene, and Jasper counties. This has been confused with *Utricularia minor*, which is not known in Mo.

***Utricularia gibba* L.**

Stagnant water of ponds, lakes, and sloughs. Circumneutral. Central and southern Mo., scattered: Boone, St. Charles, St. Louis, Iron, Reynolds, Dunklin, Oregon, Texas, Greene, Jackson, and Jasper counties. This species has been confused frequently with *Utricularia pumila* Walt. (*U. biflora* Lam.) which is not known to occur in Mo.

Fam. OROBANCHACEAE

***Orobanche uniflora* L.** Small Cancer-root.

Rocky open woods and fields. Oxylophile. General but scattered: Ralls, Boone, Cole, St. Louis, Jefferson, Franklin, Ste. Genevieve, Iron, Carter, Crawford, Phelps, Maries, Miller, Camden, Greene, Christian, Platte, Jackson, Johnson, Henry, Vernon, Jasper, Barry, and McDonald counties.

***Epifagus virginiana* (L.) Bart.** Beech-drops.

Rich woods, under beech trees. Circumneutral to oxylophile. Crowley's Ridge, southeastern Mo., local: Scott Co.

Fam. BIGNONIACEAE

***Campsis radicans* (L.) Seem.** Trumpet Creeper, Trumpet-vine.

Tecoma radicans (L.) Juss. (G.).

Bignonia radicans L. (B & B).

Open woods, thickets, banks of streams, and along road and railroad embankments. Indifferent. General, but scattered northward. Native in the Ozark region and introduced or escaped in other sections.

***Bignonia capreolata* L.** Cross-vine.

Low alluvial woods and thickets along streams. Circumneutral to oxylophile. Southeastern Mo.: Iron, Bollinger, Cape Girardeau, Mississippi, Pemiscot, Dunklin, Butler, and Ripley counties.

***Catalpa speciosa* Warder.** Catalpa, Cigar Tree.

Low or upland woods, and also introduced along streams and in waste ground. Eastern and southern Mo.: Pike, Iron, Madison, Bollinger, Cape Girardeau, Scott, Mississippi, New Madrid, Stoddard, Pemiscot, Dunklin, Oregon, Howell, Dallas, Greene, Jasper, and Newton counties. Native in southeastern Mo. and escaped from cultivation elsewhere.

***Catalpa bignonioides* Walt.**

Along streams and roadsides and in waste ground. Indifferent. Scattered: St. Louis, Boone, Jackson, Jasper, and Newton counties. Introduced.

Fam. PEDALIACEAE

***SESAMUM ORIENTALE* L.** Benne.

Gesamum indicum L.

Sandy open ground. Introduced in Jackson Co.

Fam. MARTYNIACEAE

Martynia louisiana Mill. Devil's-claws, Unicorn Plant.

Pastures, cultivated and waste ground. Calciphile to circumneutral. Scattered: Boone, St. Louis, St. Francois, New Madrid, Dunklin, Ozark, Jackson, Johnson, Dade, and Greene counties.

Fam. ACANTHACEAE

Dianthera americana L. Water Willow.

Borders of shallow streams, sloughs, and ditches. Circumneutral. Central and southern Mo.: Boone, Montgomery, Warren, St. Louis, Jefferson, Franklin, Washington, St. Francois, Ste. Genevieve, Perry, Cape Girardeau, Bollinger, Madison, Iron, Reynolds, Wayne, Carter, Ripley, Oregon, Shannon, Howell, Texas, Dent, Crawford, Gasconade, Osage, Cole, Miller, Maries, Phelps, Pulaski, Laclede, Wright, Webster, Douglas, Ozark, Greene, Christian, Taney, Stone, Morgan, Camden, Miller, Dallas, Hickory, Polk, Barry, Jackson, Jasper, Newton, and McDonald counties.

Dianthera ovata Walt.

Low wet woods and borders of swamps. Circumneutral. Southeastern Mo.: Stoddard, New Madrid, Pemiscot, Dunklin, Butler, and Ripley counties.

Ruellia carolinensis (Walt.) Steud. See Rh. 17: 134. 1915. Wild Petunia.

Ruellia ciliosa Pursh (G), (B & B).

Rocky prairies, hillsides, and glades. Oxylophile to circumneutral. General.

Ruellia carolinensis var. *parviflora* (Nees) Blake, Rh. 17: 134. 1915.

Ruellia ciliosa var. *parviflora* (Nees) Britton (G).

Ruellia parviflora (Nees) Britton (B & B).

Glades and rocky ledges. Oxylophile. West-central and southern Mo.: Ste. Genevieve, Butler, Clay, Jackson, Jasper, and Newton counties.

Ruellia strepens L.

Rich or rocky open woods and thickets. Circumneutral to calciphile. General.

Ruellia pedunculata Torr.

Rocky open woods and glades. Circumneutral to calciphile. East-central and southern Mo.: St. Louis, Jefferson, Franklin, Ste. Genevieve, Iron, Madison, Dunklin, Butler, Carter, Reynolds, Dent, Oregon, Shannon, Texas, Howell, Phelps, Pulaski, Wright, Webster, Douglas, Ozark, Taney, Stone, Barry, and McDonald counties.

Dicliptera brachiata (Pursh) Spreng. See Rh. 11: 57. 1909.

Diapodium brachiatum (Pursh) Ktze. (B & B).

Low alluvial woods and thickets. Circumneutral. East-central and southern Mo.: St. Louis, Gasconade, Shannon, Ripley, Ozark, Taney, Stone, Barry, Jasper, Newton, and McDonald counties.

Fam. PHRYMACEAE

Phryma Leptostachya L. Lopseed.

Rocky or alluvial woods and thickets. Circumneutral. General.

Fam. PLANTAGINACEAE

Plantago cordata Lam.

Swampy woods, sloughs, and rocky stream beds. Circumneutral. Northern, central, and southeastern Mo.: Adair, Boone, St. Louis, Jefferson, Dent, Iron, Carter, and Shannon counties.

Plantago major L. Plantain.

Fields, waste ground, and door yards. Indifferent. General, but less common than the next species.

Plantago rugelii Dene. Plantain.

Fields, waste ground, and door yards. Indifferent. General and in every county.

PLANTAGO LANCEOLATA L. Rib Grass.

Pastures, roadsides, and waste ground. Indifferent. General. Broad-leaved specimens of this species have sometimes been confused with *Plantago media* which has not been found in Mo.

Plantago Purshii R. & S. Salt-and-pepper Plant.

Loess hills, glades, dry prairies, and waste ground. Circumneutral. Central and northwestern Mo.: St. Louis, Holt, Clay, and Jackson counties. Probably native in northwestern Mo. and introduced elsewhere.

Plantago spinulosa Dene.

Waste ground. Indifferent. Introduced in Jackson Co.

Plantago aristata Michx.

Fields, glades, barrens, and waste ground. Oxylophile to circumneutral. General.

Plantago virginica L.

Fields, glades, and rocky waste ground. Oxylophile to circumneutral. General.

Plantago rhodosperma Dene.

Waste ground. Indifferent. Introduced in Jackson Co.

Plantago heterophylla Nutt.

Sandy open ground. Oxylophile. Southeastern Mo.: Scott Co.

Plantago elongata Pursh.

Plantago pusilla Nutt. (B & B).

Fallow fields, prairies, and glades. Oxylophile to circumneutral. General but most abundant southward: Boone, Audrain, Marion, Lincoln, Montgomery, St. Louis, Jefferson, Franklin, Ste. Genevieve, Iron, Madison, Cape Girardeau, Dunklin, Butler, Wayne, Ripley, Carter, Shannon, Texas, Phelps, Laclede, Greene, Taney, Jackson, Lawrence, Jasper, and Newton counties.

Fam. RUBIACEAE

Gaulium virgatum Nutt.

Rocky ledges, glades, and prairies. Calciphile to circumneutral. Central and southern Mo.: St. Louis, Jefferson, Franklin, Washington, Ste. Genevieve, Ripley, Oregon, Gasconade, Shannon, Texas, Laclede, Dallas, Miller, Camden, Benton, Hickory, Polk, St. Clair, Greene, Webster, Ozark, Taney, Stone, Barry, Jasper, Newton, and McDonald counties.

Galium Aparine L. Cleavers, Goose Grass.

Rich woods, thickets, alluvial and waste ground. Circumneutral. General.

Galium Aparine var. *Vaillantii* (DC.) Koch.

In similar situations to the typical form. Jackson and Jasper counties.

Galium pilosum Ait.

Rocky woods and thickets. Circumneutral to oxyophile. Central and southern Mo.

Galium pilosum var. *puncticulosum* (Michx.) T. & G.

Occasionally found with the typical form. Southern Mo., scattered: Jefferson and Jasper counties.

Galium circaeans Michx. Wild Licorice.

Rocky woods and thickets. Circumneutral. General.

Galium arkansanum Gray.

Rocky woods. Oxyophile to circumneutral. Southern Mo.: Washington, Ste. Genevieve, Scott, Iron, Reynolds, Carter, Ripley, Dent, Shannon, Oregon, Howell, Texas, Wright, Douglas, Ozark, Taney, Greene, Stone, Barry, Newton, and McDonald counties.

Galium boreale L. var. *hyssopifolium* (Hoffm.) DC. See Rh. 30: 106-107. 1928.
Northern Bedstraw.

Ledges along high north-facing sandstone and dolomite bluffs. Oxyophile to circumneutral. Southeastern Mo., local: Shannon Co.

Galium tinctorium L. Wild Madder.

Swamps and low wet woods and thickets. Circumneutral. General.

Galium Claytoni Michx.

Swampy places and wet ground among hummocks in sink-hole ponds. Circumneutral. Southeastern Mo.: Mississippi, Dent, and Texas counties.

Galium concinnum T. & G. Shining Bedstraw.

Prairie swales and moist open woods. Circumneutral. General.

Galium triflorum Michx. Fragrant Bedstraw.

Rich or moist woods and low open ground. Circumneutral. General.

Spermacoce glabra Michx. Smooth Button-weed.

Low wet woods, fields, and borders of ponds, sloughs, and streams. Circumneutral to oxyophile. Central and southern Mo.: Lincoln, St. Charles, St. Louis, Jefferson, Perry, Mississippi, New Madrid, Pemiscot, Dunklin, Butler, Ripley, Reynolds, Oregon, Howell, Gasconade, Maries, Miller, Pulaski, Laclede, Dallas, Henry, Greene, Taney, Barry, Jasper, Newton, and McDonald counties.

Diodia teres Walt. Rough Button-weed.

Prairies, glades, fields, and waste ground. Oxyophile to circumneutral. General but commonest south of the Missouri River.

Diodia virginiana L. Button-weed.

Low wet woods and borders of streams and bayous. Circumneutral to oxyophile. Southeastern Mo.: Bollinger, Mississippi, New Madrid, Pemiscot, Dunklin, Stoddard, Wayne, Butler, and Ripley counties.

Mitchella repens L. Partridge Berry.

Moist sandy banks of streams, sandy bogs, and moist ledges of sandstone

bluffs. Oxylophile. Eastern Mo., mostly south of the Missouri River: Lincoln, Jefferson, Ste. Genevieve, Perry, Madison, New Madrid, Dunklin, Butler, and Ripley counties.

Cephalanthus occidentalis L. Button-bush.

Low swampy woods and borders of streams and sloughs. Circumneutral. General and probably in every county.

Cephalanthus occidentalis var. *pubescens* Raf.

Swampy woods and borders of bayous. Circumneutral. Southeastern Mo.: Scott, Dunklin, Butler, and Ripley counties.

Houstonia caerulea L. Bluets, Innocence.

Moist open woods, open banks, and moist sandstone or granitic ledges. Oxylophile. Southeastern Mo., mostly in the Iron Mountain sub-region: Ste. Genevieve, St. Francois, Iron, Madison, Wayne, Butler, Dunklin, Ripley, Carter, Shannon, Dent, and Texas counties.

Houstonia patens Ell. Star Violet.

Dry open ground, glades, and rocky ledges, usually in sandstone or granitic areas. Oxylophile. Eastern and middle Mo., mostly south of the Missouri River: Lincoln, Warren, Jefferson, Franklin, Crawford, Ste. Genevieve, St. Francois, Iron, Madison, Wayne, Butler, Dunklin, Ripley. Carter, Reynolds, Gasconade, Dent, Phelps, Dallas, Douglas, and Wright counties.

Houstonia minima Beck. Small Bluets.

Prairies, pastures, glades, rocky ledges, and open soils. Oxylophile to circumneutral. Central and southern Mo. south of a line from Lincoln, Audrain, Randolph, Livingston and Clay counties to Jackson Co.

Houstonia purpurea L.

Moist open woods and ledges along bluffs. Oxylophile. Southwestern Mo.: Webster, Ozark, Greene, Stone, Bates, Vernon, Barton, Jasper, and McDonald counties.

Houstonia tenuifolia Nutt.

Rocky open woods and glades. Oxylophile. Southeastern Mo., local: Madison Co.

Houstonia longifolia Gaertn.

Rocky open woods, glades, and ledges along bluffs. Circumneutral. East-central and southern Mo., south and east of a line drawn from St. Charles, Maries, and Camden counties to Newton Co. This has been confused with *H. ciliolata* which does not occur in Missouri.

Houstonia lanceolata (Poir.) Britton.

Rocky open woods. Oxylophile to circumneutral. East-central and southern Mo., scattered: St. Louis, Jefferson, Taney, and Barry counties.

Houstonia angustifolia Michx.

Rocky ledges, glades, bluffs, and loess hills. Circumneutral to calciphile. Central, southern, and northwestern Mo.: Macon, Howard, Boone, Montgomery, Warren, St. Charles, St. Louis, Jefferson, Franklin, Washington, St. Francois, Ste. Genevieve, Perry, Cape Girardeau, Bollinger, Madison, Dunklin, Iron, Reynolds, Wayne, Carter, Ripley, Oregon, Howell, Shannon, Texas, Dent, Crawford, Phelps, Gasconade, Osage, Maries, Cole, Pulaski, Miller, Morgan, Benton,

Henry, Camden, Laclede, Dallas, Hickory, Polk, Greene, Douglas, Wright, Webster, Ozark, Taney, Stone, Barry, Cedar, Atchison, Holt, Buchanan, Bates, Jasper, Newton, Christian, and McDonald counties.

Oldenlandia uniflora L.

Moist sandy ground. Oxylophile. Southeastern Mo., local: Dunklin Co.

Fam. CAPRIFOLIACEAE

LONICERA JAPONICA Thunb. Japanese Honeysuckle.

Open woods, thickets, and roadsides. Escaped from cultivation; scattered but becoming more widespread: Boone, Pike, St. Charles, St. Louis, Cape Girardeau, Bollinger, Scott, Mississippi, Dunklin, Butler, Shannon, Jackson, Vernon, Barton, and Jasper counties.

Lonicera sempervirens L. Trumpet Honeysuckle.

Thickets and roadsides. Escaped from cultivation in our area. Scattered: St. Louis, Greene, Barton, and Jasper counties.

Lonicera prolifera (Kirch.) Rehder, Rh. 12: 166. 1910. Grape Honeysuckle.

Lonicera Sullivantii Gray (G), (B & B).

Thickets and wooded bluffs. Calciphile. Northern, central, and western Mo.: Mercer, Sullivan, Schuyler, Adair, Clark, Knox, Shelby, Warren, Boone, Saline, Pettis, Benton, Morgan, Clay, Jackson, Cass, Dade, Lawrence, Greene, and Jasper counties.

Lonicera dioica L. var. *glaucescens* (Rydb.) Butters, Minn. Trees & Shrubs. 289. 1912.

Lonicera glaucescens Rydb. (G), (B & B).

Thickets, bluffs, and banks of streams. Circumneutral to calciphile. Northern Mo., south locally in Morgan Co.: Clark, Lewis, Ralls, Atchison, and Morgan counties.

Lonicera flava Sims. Yellow Honeysuckle.

Rocky woods and bluffs. Oxylophile to circumneutral. Southern Mo.: Madison, Iron, Wayne, Reynolds, Carter, Ripley, Shannon, Oregon, Gasconade, Maries, Crawford, Dent, Texas, Howell, Phelps, Pulaski, Camden, Laclede, Dallas, Miller, Hickory, Webster, Wright, Douglas, Ozark, Taney, Stone, Barry, and McDonald counties.

Lonicera flavidia Cockerell, Rh. 12: 167. 1910.

Bluffs and rocky ground along streams. Calciphile to circumneutral. Southwestern Mo.: Greene, Taney, Stone, and Barry counties.

Symporicarpos orbiculatus Moench. Buck Brush, Indian Currant.

Thickets, rocky bluffs, and banks of streams. Circumneutral to oxylophile. General and probably in every county.

Symporicarpos occidentalis Hook. Wolfberry.

Loess hills, thickets, and open banks. Calciphile. Northern and west-central Mo.: Adair, Nodaway, Atchison, and Jackson counties.

Triosteum perfoliatum L. Horse Gentian.

Open woods and thickets. Circumneutral. General.

Triosteum aurantiacum Bicknell var. *illinoense* (Wieg.) Palmer & Steyermark, comb. nov.

Triosteum illinoense (Wiegand) Rydb. (R).

Triosteum perfoliatum var. *illinoense* Wiegand.

Rich or rocky woods and bluffs. Circumneutral. Eastern and middle Mo.: Putnam, Schuyler, Sullivan, Adair, Monroe, Audrain, Boone, Warren, Carter, Crawford, Texas, Pulaski, Shannon, Morgan, and Dallas counties.

Triosteum angustifolium L.

Rocky open woods and ledges. Circumneutral to calciphile. Central and southern Mo.: St. Louis, Jefferson, Franklin, Carter, Ripley, Dent, Shannon, Howell, Texas, Morgan, Polk, Wright, Hickory, Webster, Douglas, Greene, Stone, and McDonald counties.

Viburnum molle L. Arrow-wood.

Woods along streams and at base of high bluffs. Calciphile. Central and southern Mo., scattered: Warren, Crawford, Texas, Howell, Benton, Christian, and Stone counties.

Viburnum molle f. *leiophyllum* Rehder, Jour. Arnold Arb. 5: 57. 1924.

In similar situations to the typical form. Western Mo., south of the Missouri River, scattered: Benton, Taney, Stone, and McDonald counties.

Viburnum pubescens (Ait.) Pursh var. *Deamii* Rehder, Jour. Arnold Arb. 5: 58. 1924.

Low woods along river. Circumneutral. Northeastern Mo., local: Shelby Co.

Viburnum affine Bush ex Rehder. See Rh. 20: 14. 1918.

Viburnum pubescens of auth., not Pursh (G), (B & B).

Rocky or open woods and bluffs. Circumneutral to calciphile. General but scattered: Mercer, Sullivan, Schuyler, Clark, Shelby, Adair, Boone, Phelps, Carter, Oregon, Shannon, Howell, Benton, Taney, Stone, Barry, and McDonald counties.

Viburnum affine var. *hypomalacum* Blake, Rh. 20: 14. 1918.

In similar situations to the typical form. Circumneutral to calciphile. Northeastern and central Mo.: Clark, Lewis, and Morgan counties.

Viburnum prunifolium L. Black Haw.

Woods, thickets, and banks of streams. Circumneutral. General and probably in every county.

Viburnum prunifolium var. *Bushii* (Ashe) Palmer & Steyermark, comb. nov.

Viburnum Bushii Ashe, Jour. Elisha Mitchell Sci. Soc. 40: 48. 1924.

Rocky or open woods and thickets. Circumneutral. Central and southern Mo.: Cape Girardeau, Washington, Crawford, Iron, Reynolds, Carter, Ripley, Shannon, Texas, Dent, Phelps, Laclede, Camden, Boone, Randolph, Cooper, Moniteau, Saline, Lafayette, Clay, Jackson, Henry, Hickory, Polk, Cedar, Lawrence, Barton, and Jasper counties. This has sometimes been confused with *V. Lentago*.

Viburnum rufidulum Raf. Black Haw.

Rocky woods, thickets, glades, and banks of streams. Circumneutral to calciphile. Central and southern Mo.: Common south of the Missouri River, and north to Ralls, Monroe, and Clay counties.

Viburnum Lentago L. Nannyberry.

Woods and bluffs. Circumneutral. Northeastern Mo., local: Schuyler Co.
Sambucus canadensis L. Elderberry.

Open woods and thickets. Circumneutral. General and probably in every county.

Sambucus canadensis var. submollis Rehder in Sarg. Trees & Shrubs 2: 188. 1911.
In similar situations to the typical form. Circumneutral. General but scattered: Clark, St. Louis, Stoddard, Ripley, Howell, Grundy, Atchison, Jackson, Jasper, Newton, and Barry counties.

Sambucus pubens Michx. Red Elderberry.

Sambucus racemosa of auth., not L. (G.), (B & B).

Rich thickets and rocky banks of streams. Circumneutral. Northeastern Mo., local: Marion Co.

Fam. VALERIANACEAE**Valerianella radiata (L.) Dufr.** Beaked Corn Salad.

Prairies, fields, and roadsides. Circumneutral. General.

Valerianella radiata var. leiocarpa (T. & G.) Krok.

Fields, glades, and rocky open or waste ground. Frequently found with the typical form. General but scattered: Marion, Lincoln, St. Louis, Jefferson, Franklin, Ste. Genevieve, Iron, Wayne, Jackson, Henry, and Jasper counties.

Valerianella stenocarpa (Engelm.) Krok.

Rocky prairies and glades. Circumneutral. Scattered: Pike, Jackson, and Jasper counties.

Valerianella longiflora (T. & G.) Walp.

Rocky open woods and glades. Circumneutral to oxylophile. Southern Mo.: Madison, Taney, Stone, Barry, and McDonald counties.

Fam. DIPSACACEAE**DIPSACUS SYLVESTRIS Huds.** Teasel.

Along roadsides, railroads, and gravel bars of small streams. Indifferent. Central and southern Mo.: Boone, Montgomery, Warren, St. Louis, Jefferson, Franklin, Osage, Clay, Webster, Greene, Barry, Jasper, and Newton counties.

Fam. CUCURBITACEAE**Cucurbita foetidissima HBK.** Wild Gourd, Missouri Gourd.

Fields, waste ground, and along railroad and road embankments. Circumneutral to calciphile. Central and southern Mo., scattered: St. Louis, Jefferson, Crawford, Boone, Jackson, and Greene counties.

Gayponia grandifolia (T. & G.) Small.

Low woods and borders of bayous. Circumneutral. Southeastern Mo.: Mississippi and New Madrid counties.

Sicyos angulatus L. One-seeded Bur Cucumber.

Low alluvial woods, rich ground at base of bluffs, fields, thickets, and waste ground. Circumneutral to calciphile. Eastern, southern, and central Mo.:

Marion, Boone, Warren, St. Louis, Jefferson, Franklin, Bollinger, Crawford, Dent, Phelps, Pulaski, St. Francois, Mississippi, Reynolds, Texas, Laclede, Clay, Jackson, Johnson, Hickory, Webster, Jasper, and McDonald counties.

Echinocystis lobata (Michx.) T. & G. Wild Balsam-apple, Wild Cucumber Vine.

Thickets, roadsides, alluvial and waste ground. Circumneutral. General but scattered: Sullivan, Shelby, Boone, St. Charles, St. Louis, Harrison, Gentry, DeKalb, Jackson, Cass, Johnson, Greene, and Jasper counties.

Melothria pendula L.

Rich woods and thickets. Circumneutral. Southern Mo.: Stoddard, Dunklin, Butler, Barry, and McDonald counties.

The watermelon (*Citrullus vulgaris* Schrad.), muskmelon (*Cucumis Melo* L.), cucumber (*Cucumis sativus* L.), pumpkin (*Cucurbita Pepo* L.), and the gourd (*Lagenaria vulgaris* Ser.), are often found growing spontaneously on dumps, waste ground, and along roadsides; but since none of them show any tendency to self-seed or persist they cannot properly be considered as additions to the state flora.

Fam. CAMPANULACEAE

Specularia perfoliata (L.) A. DC. Venus's Looking-glass.

Prairies, fields, and waste ground. Circumneutral. General.

Specularia biflora (R. & S.) Fisch. & Mey.

Fields, roadsides, and waste ground. Circumneutral. Southern Mo.: Bollinger, Dunklin, Ripley, Oregon, Iron, Dent, Wayne, Shannon, Texas, Laclede, Ozark, Christian, Taney, Barry, Jasper, and Newton counties.

Specularia leptocarpa (Nutt.) Gray.

Rocky or gravelly open ground and glades. Circumneutral to oxylophile. Central and southwestern Mo.: St. Louis, Boone, Benton, Jackson, Cass, St. Clair, Jasper, and Newton counties.

Campanula americana L. Tall Bellflower.

Thickets and borders of woods. Circumneutral. General.

Campanula rotundifolia L. Bluebell, Harebell.

Moist ledges along bluffs. Circumneutral to calciphile. Southeastern Mo., local: Shannon Co.

CAMPANULA RAPUNCULOIDES L. Creeping Bellflower.

Fields and waste ground. Introduced in Warren Co.

Fam. LOBELIACEAE

Lobelia cardinalis L. Cardinal Flower.

Low wet woods, and borders of sloughs and streams. Circumneutral. General.

Lobelia siphilitica L. Blue Lobelia.

Wet ledges along bluffs, and borders of ponds, sloughs, and small streams. Circumneutral. General.

Lobelia puberula Michx.

Moist sandy open ground and open woods. Oxylophile. Southeastern Mo.: Dunklin and Ripley counties.

Lobelia leptostachys A. DC.

Open woods, glades, and prairies. Circumneutral. Central and southern Mo.: Cole, Warren, St. Louis, Jefferson, Franklin, Washington, Crawford, Madison, Iron, Shannon, Dent, Phelps, Pulaski, Miller, Wright, Ozark, Polk, Hickory, Greene, Taney, Barry, Jackson, Jasper, Newton, and McDonald counties.

Lobelia spicata Lam.

Open woods and prairies. Circumneutral. General: Schuyler, Adair, Macon, Linn, Knox, Shelby, Marion, Montgomery, Boone, Callaway, St. Charles, St. Louis, Reynolds, Oregon, Texas, Polk, Saline, Jackson, Bates, Vernon, and Jasper counties.

Lobelia spicata var. *hirtella* Gray.

Prairies and glades. Circumneutral. Western Mo.: Nodaway, Jackson, Bates, Greene, Jasper, and Newton counties.

Lobelia inflata L. Indian Tobacco.

Rocky open woods, thickets, and alluvial ground along streams. Circumneutral. General.

Fam. COMPOSITAE

Vernonia crinita Raf. Ironweed.

Open woods, thickets, borders of sloughs, and gravel and sand bars along Ozark streams. Circumneutral to oxylophile. Central and southern Mo. south of a line from St. Louis, Warren, Montgomery, Boone, and Pettis counties to Clay Co.

Vernonia fasciculata Michx.

Prairies, meadows, alluvial soils along streams, and waste places in rich moist soil. Circumneutral. General, commonest in northern and central Mo., and apparently absent from most of the Ozark region: Clark, Lewis, Marion, Pike, Lincoln, St. Charles, St. Louis, Butler, Shannon, Boone, Sullivan, Linn, Livingston, Gentry, Nodaway, Holt, Andrew, Buchanan, Platte, Jackson, Cass, Johnson, Henry, and Jasper counties.

Vernonia altissima Nutt.

Thickets, prairies, meadows, and waste ground, common in alluvial and low woods. Circumneutral. General, but commonest in eastern, southern, and central Mo.

Vernonia altissima var. *taeniorhiza* Blake, Rh. 19: 167. 1917.

In similar situations to the typical form. General.

Vernonia missurica Raf.

Vernonia illinoensis Gleason. (G).

Meadows, prairies, moist open ground along streams, fields and waste places. Circumneutral. General, but commonest in northern, central, and western Mo.

Vernonia Baldwinii Torr.

Vernonia Baldwinii var. *parthenoides* (Daniels) Rickett, Univ. Mo. Stud. Sci. Ser. 6: 81. 1931.

Fields, prairies, meadows, and waste ground. Circumneutral. Eastern, southern, and central Mo. south and east of a line drawn from Marion, Boone, and Saline counties to Jackson Co.

Vernonia interior Small.

Dry prairies, pastures, and waste ground. Circumneutral. General.

Vernonia interior var. *Drummondii* (Shuttlew.) Mack. & Bush.

Prairies and rocky open ground. Circumneutral. Scattered: St. Francois and Jackson counties.

Vernonia Baldwinii × *crinita*.

Commonly found with the parent species.* Rocky woods and glades and along streams. Calciphile to circumneutral. Central and southern Mo.: Jefferson, Washington, Crawford, Reynolds, Ripley, Dent, Shannon, Howell, Oregon, Gasconade, Texas, Dallas, Webster, Polk, Pettis, Stone, Clay, and Jasper counties.

Vernonia altissima × *missurica*.

Occasionally found with the parent species. Scattered: Gentry, DeKalb, Boone, Crawford, Ripley, and Laclede counties.

Vernonia crinita × *fasciculata*.

Rarely found with the parent species. St. Louis Co.

Vernonia crinita × *interior*.

Rarely found with the parent species. Phelps Co.

Vernonia crinita × *missurica*.

Occasionally found with the parent species. Crawford and Dent counties.

Vernonia fasciculata × *interior*.

Occasionally found with the parent species. Northwestern Mo.: Buchanan and Andrew counties.

Vernonia interior × *missurica*.

Sometimes found with the parent species. Clark, St. Louis, and Crawford counties.

Vernonia altissima × *crinita*.

Rarely found with the parent species. Crawford, Cedar, and Hickory counties.

Elephantopus carolinianus Willd. Elephant's-foot.

Open woods and thickets. Circumneutral. General.

Eupatorium falcatum Michx. See Rh. 22: 62–68. 1920.

Eupatorium purpureum of auth. in part, not L. (G), (B & B).

Eupatorium Holsingeri Rydb. (R).

Moist ground, thickets, and margins of streams and sloughs. Circumneutral. General and common. This has been confused with *E. maculatum*, which is of more northern range and does not reach Mo.

Eupatorium purpureum L. See Rh. 22: 62–67. 1920.

Low open woods and moist open ground. Circumneutral. Northern and eastern Mo.: Livingston, Marion, Butler, and Scott counties.

Eupatorium cuneifolium Willd. var. *semiserratum* (DC.) Fernald & Griscom, Rh. 37: 179. 1935.

Eupatorium semiserratum DC. (G).

Swamps, wet prairies, and open woods. Circumneutral. Southeastern Mo.: Dunklin and Butler counties, and also collected in St. Louis Co. where perhaps introduced.

Eupatorium serotinum Michx.

Prairies, fields, thickets, and waste ground. Circumneutral. General.

Eupatorium sessilifolium L. Upland Boneset.

Rocky open woods, bluffs, and banks. Circumneutral to calciphile. Eastern, central, and southern Mo.: Marion, Ralls, Boone, Jefferson, St. Francois, Iron, Reynolds, Crawford, Shannon, Texas, Pulaski, Camden, Laclede, Greene, Taney, Barry, and McDonald counties.

Eupatorium altissimum L.

Prairies, rocky hills, and thickets. Circumneutral. General.

Eupatorium perfoliatum L. Boneset, Thoroughwort.

Low wet woods, and along sloughs and prairie streams. Oxyophile. General.

Eupatorium perfoliatum var. *cuneatum* Engelm.

Occasionally found with the typical form. Scattered: Marion, Ralls, St. Louis, Perry, Jackson, and Greene counties.

Eupatorium urticaefolium Reichard. White Snakeroot.

Rich woods, thickets, and along base of bluffs. Circumneutral. General.

Eupatorium urticaefolium var. *villicae* Fernald.

Occasionally found with the typical form. Scattered: Putnam, Boone, St. Louis, Jefferson, Oregon, Ozark, Greene, Christian, Lafayette, and Clinton counties.

Eupatorium incarnatum Walt.

Low woods and swamps. Circumneutral. Southeastern Mo.: Dunklin Co.

Eupatorium coelestinum L. Mist-flower.

Swampy woods, and wet banks of streams and bayous. Circumneutral. Eastern, central, and southern Mo., south and east of a line from Shelby, Boone, and Saline counties to Jackson Co.

Mikania scandens (L.) Willd. Climbing Hemp-weed.

Swampy woods and borders of bayous. Circumneutral. Southeastern Mo.: Scott, Mississippi, New Madrid, Stoddard, Dunklin, and Butler counties.

Brickellia grandiflora (Hook.) Nutt. Tassel Flower.

Rocky woods and along shaded bluffs. Calciphile to circumneutral. Central and southern Mo.: St. Louis, Reynolds, Shannon, Texas, Osage, Phelps, Pulaski, Miller, Camden, Ozark, Taney, Stone, Henry, and Barry counties.

Kuhnia eupatorioides L. False Boneset.

Rocky open woods, prairies, and thickets. Circumneutral to oxyophile. General.

Kuhnia eupatorioides var. *corymbulosa* T. & G.

Occasionally found with the typical form. Scattered: Carroll, Boone, Scott, Atchison, Holt, Jackson, Henry, and Greene counties.

Kuhnia eupatorioides var. *angustifolia* Raf.

Rocky ledges and glades. Circumneutral to oxyophile. Central and southern Mo.: St. Francois, Dent, Shannon, Oregon, Phelps, Maries, Pulaski, Laclede, Greene, Shannon, Texas, Ozark, Barry, Jackson, Jasper, and McDonald counties.

Liatris squarrosa Willd. Blazing Star.

Liatris hirsuta Rydb. (R).

Rocky open woods and glades, and ledges along bluffs. Oxylophile to circumneutral. General, but commonest in the Ozark region: Mercer, Linn, Adair, Macon, Randolph, Boone, Monroe, Audrain, Pike, Montgomery, Lincoln, St. Louis, Stoddard, Iron, Reynolds, Shannon, Dent, Crawford, Phelps, Pulaski, Laebede, Dallas, Saline, Pettis, Henry, Hickory, Greene, Christian, Stone, Barry, Jackson, Cass, Vernon, Jasper, Newton, and McDonald counties.

Liatris squarrosa var. *intermedia* (Lindl.) DC.

Liatris glabrata Rydb., in part (R).

Rocky prairies and glades. Oxylophile to circumneutral. Eastern, central, and southern Mo.: Macon, Boone, St. Louis, Crawford, Dunklin, Iron, Shannon, Dent, Texas, Greene, Christian, Stone, Taney, Jackson, Barry, and McDonald counties.

Liatris cylindracea Michx.

Liatris glabrata Rydb., in part (R).

Rocky open woods, prairies, and glades. Circumneutral. Eastern, central, and southern Mo.: Lewis, Pike, Warren, Montgomery, St. Louis, Jefferson, Franklin, Washington, Ste. Genevieve, Reynolds, Carter, Shannon, Oregon, Dent, Crawford, Maries, Phelps, Pulaski, Texas, Howell, Wright, Douglas, Ozark, Taney, Greene, Stone, Barry, and McDonald counties.

Liatris acidota Engelm. & Gray.

Liatris punctata of auth., not Hook. (G), (B & B).

Lacinaria angustifolia Bush.

Loess hills, prairies, glades, and open woods. Circumneutral to calciphile. Western Mo.: Atchison, Holt, Jackson, Barry, and Taney counties.

Liatris scariosa Willd. Gay Feather.

Liatris sphaeroidea Michx. (R).

Liatris aspera (Michx.) Greene (R).

Rocky prairies, meadows, glades, and bald knobs. Calciphile to circumneutral. General.

Liatris pycnostachya Michx.

Prairies, meadows, and rocky open ground. Circumneutral. General.

Liatris spicata (L.) Willd.

Rocky open woods and prairies. Circumneutral. Southeastern Mo., local: Oregon Co.

Grindelia squarrosa (Pursh) Dunal. Gum Plant.

Prairies, low alluvial and waste ground. Calciphile to circumneutral. Eastern and central Mo., scattered: Marion, St. Louis, Perry, Carroll, and Jackson counties.

Grindelia squarrosa var. *serrulata* (Rydb.) Steyermark, Ann. Mo. Bot. Gard. 21: 227, 482. 1934.

Cultivated fields and waste ground, introduced from farther west. Circumneutral to calciphile. Clark and Boone counties.

Grindelia squarrosa var. *nuda* (Wood) Gray.

Sometimes found with the typical form. St. Louis and Jackson counties.

Grindelia lanceolata Nutt.

Rocky prairies, glades, and bald knobs, and also sometimes introduced along

railways or in fields. Calciphile. Central and southern Mo.: St. Louis, Jefferson, Butler, Camden, Wright, Douglas, Ozark, Henry, Greene, Taney, Stone, Barry, Vernon, Barton, Jasper, Newton, and McDonald counties.

Grindelia lanceolata f. latifolia Steyermark, Ann. Mo. Bot. Gard. 21: 515. 1934.

Rarely occurring with the species. Southwestern Mo., local: Stone Co.

Gutierrezia dracunculoides (DC.) Blake, Contr. U. S. Nat. Herb. 22: 592. 1924.

August Flower.

Amphiachyris dracunculoides (DC.) Nutt. (G), (B & B).

Dry upland prairies. Circumneutral to calciphile. Western Mo.: Atchison, Jackson, Cass, Cedar, Greene, Jasper, Newton, and McDonald counties, and also introduced in St. Louis Co.

Heterotheca subaxillaris (Lam.) Britton & Rusby.

Loess hills and waste ground. Calciphile to circumneutral. Northwestern Mo.: Atchison Co., and also introduced in Jackson Co.

Chrysopsis camporum Greene. Golden Aster.

Chrysopsis villosa of auth., not Nutt. (G), (B & B).

Sandy open ground. Oxylophile. Eastern Mo., south of the Missouri River: St. Louis, Franklin, Ste. Genevieve, Scott, Mississippi, Stoddard, Dunklin, and Wayne counties.

Chrysopsis pilosa Nutt.

Rocky or sandy prairies and open banks. Oxylophile. Southern Mo.: Dunklin and Jasper counties.

Chrysopsis Berlandieri Greene.

Chrysopsis villosa var. *caneescens* (T. & G.) Gray.

Loess hills. Calciphile to circumneutral. Northwestern Mo.: Holt Co.

Aplopappus ciliatus (Nutt.) DC.

Prairies, glades, open alluvial and waste ground. Calciphile. Western Mo.: Clay, Jackson, and Stone counties.

Solidago petiolaris Ait.

Rocky prairies, thickets, and dry open woods. Circumneutral to oxylophile. Central and southern Mo.: St. Louis, Jefferson, Franklin, Ste. Genevieve, St. Francois, Madison, Iron, Reynolds, Butler, Shannon, Dent, Crawford, Gasconade, Wright, Taney, Greene, Stone, Jackson, Jasper, and Newton counties.

Solidago petiolaris var. *Wardii* (Britton) Fernald.

Rocky open woods and thickets. Oxylophile. East-central and southern Mo.: St. Louis, Jefferson, Crawford, Callaway, Montgomery, Boone, Cole, Phelps, Pulaski, Henry, Greene, Stone, Jasper, Newton, and McDonald counties.

Solidago caerulea L. Blue-stemmed Goldenrod.

Rocky woods, bluffs, and ledges. Circumneutral to oxylophile. Southern Mo.: Perry, Cape Girardeau, Bollinger, Iron, Wayne, Ripley, Reynolds, Shannon, Oregon, Texas, Howell, Douglas, Ozark, and Barry counties.

Solidago latifolia L.

Rich rocky woods and shaded bluffs. Circumneutral. General but commonest in central and southern Mo.: Putnam, Marion, Ralls, Monroe, Boone, Callaway, Warren, Lincoln, St. Charles, St. Louis, Jefferson, Franklin, Cape Girardeau,

Bollinger, Madison, Iron, Wayne, Carter, Shannon, Oregon, Morgan, Camden, Dallas, Ozark, Taney, Stone, Barry, Jackson, Lafayette, Pettis, Hickory, Greene, and Jasper counties.

Solidago Lindheimeriana Scheele.

Rocky woods and bluffs. Circumneutral. East-central and southern Mo.: Jefferson, Franklin, Carter, Barry, and McDonald counties.

Solidago hispida Muhl.

Rocky open woods and ledges. Oxylophile. East-central and southern Mo.: St. Louis, Jefferson, Franklin, Gasconade, Crawford, Ste. Genevieve, Bollinger, Madison, Iron, Reynolds, Wayne, Carter, Ripley, Oregon, Shannon, Dent, Texas, Howell, Douglas, Ozark, Taney, Stone, Barry, Jasper, Newton, and McDonald counties.

Solidago speciosa Nutt.

Rocky open woods, thickets, prairies, and meadows. Circumneutral. General but scattered.

Solidago speciosa var. *angustata* T. & G.

Frequently found with the typical form. Southern and central Mo. and locally north in Worth, Putnam, and Buchanan counties.

Solidago patula Muhl.

Swampy open ground. Circumneutral. Southeastern Mo.: Bollinger, Iron, and Scott counties.

Solidago arguta Ait.

Rocky open woods and bluffs. Oxylophile to circumneutral. Southern Mo.: Ste. Genevieve, Madison, Reynolds, Carter, Shannon, Oregon, Texas, Howell, Ozark, Taney, Barry, Jasper, Newton, and McDonald counties.

Solidago arguta var. *Boottii* (Hook.) Palmer & Steyermark, comb. nov.

Solidago Boottii Hook. (G), (B & B).

Dry open woods and thickets. Circumneutral to oxylophile. Southern Mo.: Ste. Genevieve, Reynolds, Ripley, Shannon, Texas, Howell, Douglas, Ozark, Barry, Jasper, Newton, and McDonald counties.

Solidago juncea Ait. Early Goldenrod.

Open woods, thickets, and along prairie streams. Circumneutral to oxylophile. Central and southern Mo.: Boone, St. Louis, Scott, Iron, Carter, Shannon, Taney, Barry, Newton, and McDonald counties.

Solidago juncea var. *scabrella* (T. & G.) Gray.

Occasionally found with the typical form. Southwestern Mo.: Taney, Barry, and Newton counties.

Solidago suaveolens Schoepf. See Rh. 21: 70. 1919. Fragrant Goldenrod.

Solidago odora Ait. (G), (B & B).

Rocky or sandy open woods and thickets. Oxylophile. Southeastern Mo.: Scott, Dunklin, Carter, and Ripley counties.

Solidago microphylla Engelm.

Rocky woods and bluffs. Circumneutral. Southern Mo., local: Ozark Co.

Solidago ulmifolia Muhl.

Open woods, thickets, and alluvial banks. Circumneutral. General.

***Solidago rugosa* Mill. Rough-leaved Goldenrod.**

Rocky prairies, glades, and open woods along streams. Circumneutral to oxyphile. Central and southern Mo.: St. Louis, Jefferson, Ste. Genevieve, Scott, Iron, Wayne, Butler, Dunklin, Texas, Howell, Jackson, Greene, Jasper, and Newton counties.

***Solidago rugosa* var. *aspera* (Ait.) Fernald, Rh. 17: 7. 1915.**

Solidago aspera Ait. (G).

In similar situations to the typical form. East-central and southeastern Mo.: Lincoln, Perry, Iron, Wayne, Butler, Dunklin, and Shannon counties.

***Solidago glaberrima* Martens.**

Solidago missouriensis of auth., not Nutt. (G).

Open woods, thickets, and prairies. Circumneutral. General.

***Solidago glaberrima* var. *moritura* (Steele) Palmer & Steyermark, comb. nov.**

Solidago moritura Steele (R.).

Thickets, prairies, limestone hills, and loess mounds. Calciphile to circumneutral. Western Mo.: Atchison, Holt, Henry, and Vernon counties.

***Solidago Gattingeri* Chapm.**

Rocky open ground, glades, and bald knobs. Calciphile. East-central and southern Mo.: St. Louis, Jefferson, Franklin, Camden, Dallas, Ozark, Taney, Barry, and McDonald counties.

***Solidago nemoralis* Ait. Gray Goldenrod.**

Open woods, thickets, fields, prairies, and waste ground. Oxyophile. General. *Solidago nemoralis* var. *longipetiolata* (Mack. & Bush) Palmer & Steyermark, comb. nov.

Solidago longipetiolata Mack. & Bush (R.).

Rocky open woods, glades, prairies, and loess hills. Oxyophile to circumneutral. General but scattered: Clark, Boone, St. Louis, Jefferson, St. Francois, Iron, Shannon, Maries, Camden, Worth, Atchison, Holt, Buchanan, Jackson, Jasper, and Barry counties.

***Solidago radula* Nutt.**

Rocky woods, bluffs, and glades. Circumneutral to calciphile. Eastern, central, and southern Mo. south and east of a line drawn from Marion, Monroe, Saline, and Henry counties to Cedar and Jasper counties.

***Solidago altissima* L.**

Fields, prairies, thickets, and waste ground. Circumneutral. General. This is one of the commonest goldenrods in the state, and it has often been confused with *Solidago canadensis*, the typical var. of which is not found in Mo.

***Solidago altissima* var. *procera* (Ait.) Fernald.**

Occasionally found with the typical form.

***Solidago canadensis* L. var. *gluvocanescens* Rydb.**

Fields and prairies. Circumneutral. Scattered: Linn, Pike, Boone, Saline, Jackson, and Greene counties.

***Solidago serotina* Ait.**

Moist open woods and thickets, prairie swales, and banks of streams. Circumneutral. General.

Solidago serotina var. *gigantea* (Ait.) Gray.

Occasionally found with the typical form. Scattered: St. Louis, Dunklin, Boone, Jackson, and Cass counties.

Solidago rigida L.

Prairies, thickets, and rocky open ground. Circumneutral to calciphile. General.

Solidago Drummondii T. & G.

Dry limestone or dolomite bluffs and ledges. Calciphile. Eastern and middle Mo., mostly south of the Missouri River: Monroe, Boone, Callaway, Montgomery, St. Charles, St. Louis, Jefferson, Franklin, Gasconade, Crawford, Washington, St. Francois, Ste. Genevieve, Perry, Bollinger, Madison, Iron, Reynolds, Carter, Oregon, Shannon, Dent, Phelps, Moniteau, Pulaski, Laclede, Texas, Howell, Douglas, and Ozark counties.

Solidago graminifolia (L.) Salisb. Flat-topped Goldenrod.

Euthamia glutinosa Rydb. (R).

Fields and prairies. Circumneutral. General and common.

Solidago gymnospermoides (Greene) Fernald.

Euthamia gymnospermoides Greene (B & B).

Rocky or upland prairies. Circumneutral to calciphile. Middle and western Mo.: Audrain, Boone, Miller, Pettis, Greene, Daviess, Dekalb, Jackson, Cass, Vernon, Barton, Jasper, Newton, and McDonald counties.

Solidago leptocephala T. & G.

Sandy open ground. Oxylophile. Southeastern Mo.: Mississippi, Dunklin, and Butler counties.

Bellis integrifolia Michx. Western Daisy.

Rocky open woods and glades. Calciphile. Southwestern Mo.: Taney and McDonald counties.

Chaetopappa asteroides DC.

Rocky open woods, prairies, and glades. Oxylophile. Southwestern Mo.: Vernon, Jasper, and Newton counties.

Boltonia asteroides (L.) L'Her. False Starwort.

Moist open woods and thickets. Circumneutral. General. Forms of this have been confused with *Boltonia diffusa*, which is not known in Mo.

Boltonia asteroides var. *decurrens* (T. & G.) Engelm.

Frequently found with the typical form. General but scattered.

Boltonia latisquama Gray.

Prairie swales and borders of streams and sloughs. Circumneutral Northern, central, and western Mo.: Knox, Lewis, Shelby, Monroe, Ralls, Pike, Audrain, Ripley, Boone, Randolph, Macon, Linn, Carroll, Livingston, Chariton, Caldwell, Jackson, Lafayette, Pettis, Cass, Henry, Vernon, Greene, and Jasper counties.

Aster paludosus Ait.

Prairies and along railroads. Circumneutral to oxylophile. Southwestern Mo. and locally east in Marion Co. where probably introduced: Marion, Barton, Jasper, Newton, and Barry counties.

Aster furcatus Burgess.

Shaded rocky banks and bluffs of streams. East-central and southern Mo.: Jefferson, Shannon, and Texas counties.

Aster oblongifolius Nutt.

Rocky prairies, open slopes, and glades. Calciphile to circumneutral. General.

Aster oblongifolius var. *rigidulus* Gray.

Frequently found with the typical form. Scattered: St. Louis, Jefferson, Atchison, Holt, Henry, Greene, Ozark, Barry, Jasper, and McDonald counties.

Aster novae-angliae L. New England Aster.

Thickets, prairie swales, and moist open ground along streams. Circumneutral. General but scattered.

Aster sericeus Vent.

Rocky prairies, glades, and loess hills. Calciphile to circumneutral. Central, southern, and northwestern Mo.: St. Louis, Jefferson, Washington, Iron, Dent, Shannon, Oregon, Texas, Howell, Ozark, Camden, Dallas, Hickory, Cedar, Greene, Taney, Stone, Barry, Atchison, Holt, Jackson, Cass, and McDonald counties.

Aster patens Ait. Purple Daisy.

Rocky open woods, thickets, and glades. Circumneutral to oxylophile. General.

Aster patens var. *gracilis* Hook.

Occasionally found with the typical form. Jasper and McDonald counties.

Aster anomalous Engelm.

Rocky open woods and thickets. Oxylophile to circumneutral. Eastern, central, and southern Mo., south and east of a line from Lewis, Boone, and Henry to Jasper Co.

Aster azureus Lindl. Blue Devil.

Rocky open woods, borders of prairies, and glades. Calciphile to circumneutral. General.

Aster azureus × *laevis*.

Sometimes occurring with the parent species. Prairies and dry open ground. Circumneutral. Scattered in northern and central Mo.: Monroe, Adair, Randolph, Putnam, Daviess, and Caldwell counties.

Aster cordifolius L. Heart-leaved Aster.

Moist alluvial woods, and along shaded bluffs. Circumneutral to oxylophile. General.

Aster cordifolius var. *polycephalus* Porter.

Occasionally found with the typical form. Boone Co.

Aster sagittifolius Wedemeyer.

Rocky woods and glades. Circumneutral to oxylophile. General.

Aster Drummondii Lindl.

Aster hirtellus Lindl. (R).

Rocky open woods and thickets. Circumneutral. General.

Aster turbinellus Lindl.

Rocky open woods, thickets, and glades. Circumneutral to oxylophile. Eastern, central, and southern Mo., south and east of a line from Putnam, Macon, Pettis, and Henry counties to Jasper Co.

Aster laevis L.

Rocky open woods, thickets, glades, prairies, and loess hills. Circumneutral to calciphile. General.

Aster concinnum Willd.

Rocky open woods, prairies, and glades. Calciphile to circumneutral. Central and southern Mo., scattered: St. Louis, Jefferson, Franklin, Maries, Shannon, Ozark, Cooper, Jackson, Jasper, and Newton counties.

Aster polyphyllus Willd.

Rocky open ground. Circumneutral to calciphile. East-central Mo., local: St. Louis Co.

Aster pilosus Willd. See Rh. 32: 139. 1930. White Heath Aster.

Aster ericoides var. *villosum* T. & G. (G).

Aster ericoides of auth. in part, not L. (B & B).

Fields, prairies, and rocky open ground. Circumneutral to oxylophile. General.

Aster pilosus var. *demotus* Blake, Rh. 32: 139. 1930.

Aster ericoides of auth., not L. (G), (B & B).

Rocky open woods, thickets, and prairies. Circumneutral to oxylophile. General.

Aster pilosus var. *platyphyllus* (T. & G.) Blake, Rh. 32: 139. 1930.

Aster ericoides var. *platyphyllus* T. & G. (G).

Occasionally found with the typical form. Scattered: Ralls, St. Louis, and Jackson counties.

Aster ericoides L. See Rh. 32: 138. 1930, and Rh. 30: 227. 1928.

Aster multiflorus Ait. (G), (B & B).

Aster multiflorus var. *exiguus* Fernald (G).

Rocky open woods and prairies. Circumneutral. Northern, central, and western Mo., apparently absent from most of the Ozark region: Clark, Lewis, Marion, Ralls, Pike, Lincoln, St. Charles, St. Louis, Warren, Montgomery, Audrain, Monroe, Shelby, Knox, Scotland, Schuyler, Adair, Macon, Randolph, Boone, Howard, Chariton, Linn, Sullivan, Putnam, Mercer, Grundy, Livingston, Carroll, Saline, Cooper, Morgan, Pettis, Greene, Henry, Johnson, Caldwell, Daviess, Harrison, Worth, Gentry, DeKalb, Clinton, Clay, Jackson, Bates, Jasper, Platte, Buchanan, Andrew, Nodaway, Holt, and Atchison counties.

Aster ericoides var. *prostratus* (Ktze.) Blake, Rh. 32: 138. 1930.

Aster exiguus (Fernald) Rydb., not *Aster multiflorus* var. *exiguus* Fernald.

Aster multiflorus var. *pansus* Blake, Rh. 30: 227. 1928.

Prairies, dry open ground, along railroads, and sandy or gravelly ground along streams. Circumneutral. Northern, central, and western Mo.: Knox, Macon, Marion, Lincoln, St. Louis, Cole, Montgomery, Randolph, Saline, Linn, Atchison, Jackson, and Jasper counties.

Aster parviceps (Burgess) Mack. & Bush. See Rh. 11: 59. 1909.

Aster depauperatus var. *parviceps* (Burgess) Fernald (G).

Prairies and open woods. Eastern, central, and southwestern Mo.: Marion, Ralls, Pike, Audrain, St. Louis, Bollinger, Warren, Montgomery, Callaway, Boone, Jackson, and Jasper counties.

Aster parviceps × pilosus var. demotus.

Sometimes occurring with the parent species. Circumneutral. Northern Mo.; Knox, Marion, Putnam, and Grundy counties.

Aster amethystinus Nutt.

Prairies. Circumneutral. Central Mo., local: Randolph Co. Probably a hybrid between *Aster praealtus* and *Aster novae-angliae* with which species it was found growing.

Aster commutatus (T. & G.) Gray. White Prairie Aster.

Fields and prairies. Circumneutral. Scattered: St. Louis and Jackson counties.

Aster vimineus Lam. var. subdumosus Wiegand, Rh. 30: 171. 1928. Frost Flower.

Aster vimineus of auth. in part (G), (B & B).

Open woods and prairie swales. Circumneutral. General but scattered: Monroe, Warren, St. Louis, Jefferson, Scott, Stoddard, Dunklin, Butler, Wayne, Audrain, Randolph, Linn, Henry, Greene, and Jasper counties. This has been confused with *Aster dumosus* and varieties which are not known to occur in Missouri.

Aster angustus (Lindl.) T. & G.

Open ground, loess hills. Circumneutral to calciphile. Northwestern Mo., local: Atchison Co.

Aster pantotrichus Blake, Jour. Wash. Acad. Sci. 21: 327. 1931.

Aster missouriensis Britton, not Ktze. (B & B).

Aster lateriflorus var. *thyrsoides* (Gray) Sheldon (G), in part.

Rocky open woods. Circumneutral to oxylophile. Eastern, central, and southern Mo.: Ralls, Pike, Lincoln, St. Louis, Ste. Genevieve, Iron, Taney, Boone, and Jackson counties.

Aster lateriflorus (L.) Britton var. *pendulus* (Ait.) Burgess. See Rh. 30: 173. 1928.

Aster lateriflorus of auth. in part (G), (B & B).

Low wet woods and borders of ponds, sloughs, and swales. Circumneutral. General and common. Typical *Aster lateriflorus* is of more northern and eastern range and does not reach Missouri.

Aster paniculatus Lam. Tall White Aster.

Low wet woods and prairie swales. Circumneutral. General.

Aster paniculatus var. *bellidiflorus* (Willd.) Burgess.

Occasionally found with the typical form. Boone and Jackson counties.

Aster paniculatus var. *simplex* (Willd.) Burgess.

Occasionally found with the typical form. Boone, Randolph, and Jasper counties.

Aster praealtus Poir. See Rh. 35: 21. 1933. Willow-leaved Aster.

Aster salicifolius Ait., in part (G), (B & B).

Wet meadows, prairies, roadsides, and borders of small streams. Circumneutral. General.

Aster praealtus var. *subasper* (Lindl.) Wiegand, Rh. 35: 24. 1933.

Aster salicifolius var. *subasper* (Lindl.) Gray (G).

Occasionally found with the typical form. Mississippi, Boone, and Jackson counties.

Aster interior Wiegand, Rh. 35: 35, 312. 1933. Michaelmas Daisy.

Aster Tradescanti of auth. in part, not L. (G), (B & B).

Low wet woods, thickets, and prairie swales. Circumneutral. General.

Aster linariifolius L.

Rocky open woods and glades. Oxylophile. East-central and southern Mo.: St. Louis, Jefferson, Franklin, Ste. Genevieve, Perry, Bollinger, Madison, Iron, Wayne, Ripley, Carter, Reynolds, Oregon, Dent, Shannon, Crawford, Maries, Phelps, Pulaski, Laclede, Texas, Howell, Douglas, Ozark, Greene, Taney, Barry, Jasper, Newton, and McDonald counties.

Aster ptarmicoides T. & G.

Rocky open woods and glades. Calciphile. Central and southern Mo.: Jef- ferson, Washington, Crawford, Dent, Iron, Shannon, Phelps, Pulaski, Jackson, Greene, Barry, Newton, and McDonald counties.

Aster lateriflorus var. *pendulus* × *pantotrichus*.

Occasionally found with the parent species. St. Louis Co.

Aster lateriflorus var. *pendulus* × *praealtus*.

Occasionally found with the typical form. St. Louis Co.

Erigeron pulchellus Michx. Robin's Plantain.

Rocky open woods and thickets. Oxylophile to circumneutral. General.

Erigeron philadelphicus L.

Fields, open woods, and waste ground. Circumneutral. General.

Erigeron annuus (L.) Pers. Daisy Fleabane.

Fields, prairies, and waste ground. Indifferent. General.

Erigeron ramosus (Walt.) BSP.

Rocky prairies, fields, and glades. Calciphile to circumneutral. General.

Erigeron ramosus var. *Beyrichii* (T. & G.) Trelease.

Occasionally found with the typical form. Jasper Co.

Erigeron tenuis T. & G.

Prairies, fields, and waste ground. Circumneutral. Central and southern Mo., scattered: St. Louis, Jasper, Newton, and McDonald counties.

Erigeron canadensis L.

Fields, roadsides, and waste ground. Indifferent. General and common.

Erigeron divaricatus Michx. Dwarf Fleabane.

Prairies, fields, glades, and waste ground. Oxylophile. General.

Pluchea foetida (L.) DC. Marsh Fleabane.

Swampy open woods and borders of bayous. Circumneutral. Southeastern Mo.: Butler Co.

Pluchea petiolata Cass.

Low wet woods, swamps, and borders of sloughs and bayous. Circumneutral. Southern Mo.: Bollinger, Scott, Mississippi, New Madrid, Pemiscot, Dunklin, Butler, Wayne, Ripley, Oregon, Howell, Taney, Barry, and Jasper counties, and also introduced in Jackson Co.

Antennaria plantaginifolia (L.) Richards. Ladies' Tobacco, Pussy's Toes.

Rocky open woods and thickets. Oxylophile. General.

Antennaria fallax Greene. Indian Tobacco.

Rocky open woods, glades, and prairies. Oxyophile. General. This is a common species in Missouri, and it has often been confused with *A. plantaginifolia*.

Antennaria calophylla Greene.*Antennaria ampla* Bush.

Rocky open woods and prairies. Oxyophile to circumneutral. General but scattered: Shelby, Marion, Audrain, Shannon, Ripley, Greene, Christian, Taney, Jasper, and Newton counties.

Antennaria neglecta Greene.*Antennaria longifolia* Greene.

Prairies and meadows. Circumneutral. Northern, central, and western Mo.: Schuyler, Scotland, Knox, Shelby, Lewis, Marion, Ralls, Pike, Lincoln, Audrain, Boone, Randolph, Macon, Adair, Sullivan, Linn, Mercer, Grundy, Daviess, Platte, Moniteau, Morgan, Pettis, Hickory, Henry, Cedar, Jackson, Greene, and Jasper counties.

Anaphalis margaritacea (L.) Benth. & Hook. Pearly Everlasting.

Fields and waste ground. Introduced in Boone Co.

Gnaphalium purpureum L. Cudweed.

Fields, prairies, and thickets. Circumneutral to oxyophile. General.

Gnaphalium obtusifolium L. See Rh. 20: 71. 1918. Everlasting.*Gnaphalium polycephalum* Michx. (G.).

Rocky prairies, fields, and thickets. Circumneutral to oxyophile. General.

Gnaphalium obtusifolium var. *micradenium* Weatherby, Rh. 25: 22. 1923.

Rocky open woods. Oxyophile. Southeastern Mo., eastern Ozark region: Ste. Genevieve and Shannon counties.

INULA HELENIUM L. Elecampane.

Wet open ground and waste places. Scattered: Monroe, Boone, and Jackson counties, and also reported from Greene Co.

Polymnia canadensis L.

Rich rocky woods and talus slopes. Circumneutral to calciphile. Eastern, central, and southern Mo., south and east of a line drawn from Marion, Warren, and Boone counties to Jackson Co.

Polymnia canadensis var. *radiata* Gray.

Commonly found with the typical form. Scattered in eastern, central, and southern Mo.: Clark, Marion, St. Louis, Carter, Dent, Phelps, Pulaski, Shannon, Taney, Laclede, Montgomery, Boone, Jackson, and McDonald counties.

Polymnia Uvedalia L. var. *genuina* Blake, Rh. 19: 47. 1917. Leaf-cup.

Rich woods and along bluffs. Calciphile. Scattered in central and southern Mo.: Boone and Barry counties.

Polymnia Uvedalia var. *densipilis* Blake, Rh. 19: 48. 1917.

Rich woods, thickets, and along bluffs. Calciphile to circumneutral. Central and southern Mo.: Boone, St. Louis, Jefferson, Dunklin, Butler, Ripley, Shannon, Ozark, Barry, Jasper, Newton, and McDonald counties.

Silphium laciniatum L. Compass Plant.

Prairies and glades. Circumneutral to calciphile. General.

Silphium terebinthinaceum Jacq. Prairie Dock.

Prairies, glades, and bald knobs. Calciphile to circumneutral. Eastern, central, and southern Mo., south and east of a line drawn from Marion, Boone, Benton and Greene counties to Barry Co.

Silphium Asteriscus L. Starry Rosin-weed.

Rocky open woods and glades. Circumneutral to oxyophile. Southern Mo.: Dunklin, Carter, Ripley, Oregon, Shannon, Texas, Howell, Douglas, Ozark, Stone, and Barry counties.

Silphium integrifolium Michx. Rosin-weed.

Rocky open woods, glades, and prairies. Circumneutral to calciphile. General.

Silphium perfoliatum L. Cup Plant.

Moist prairies, thickets, and borders of streams and ponds. Circumneutral. General.

Berlandiera texana DC.

Rocky open woods and thickets. Circumneutral to calciphile. Southern Mo.: Phelps, Pulaski, Carter, Dent, Shannon, Oregon, Howell, Douglas, Ozark, Taney, Stone, Greene, Lawrence, Barry, Jasper, Newton, and McDonald counties.

Engelmannia pinnatifida T. & G.

Waste ground and along railroads. Introduced from farther west. Jackson Co.

Parthenium integrifolium L.

Rocky woods, thickets, and glades. Calciphile to circumneutral. General.

Parthenium hispidum Raf.

Parthenium repens Eggert (G.).

Prairies and glades. Calciphile. Central and southern Mo.: St. Louis, Jefferson, Franklin, St. Francois, Iron, Washington, Crawford, Dent, Shannon, Oregon, Texas, Phelps, Maries, Pulaski, Miller, Camden, Laclede, Dallas, Wright, Webster, Douglas, Ozark, Taney, Stone, Greene, Polk, Hickory, Cedar, Barry, Jasper, Newton, and McDonald counties.

Parthenium Hysterophorus L. Santa Maria.

Waste ground and along railroads. Introduced in Jackson Co.

Iva ciliata Willd. Marsh Elder.

Prairies, fields, and waste ground. Circumneutral to oxyophile. General but scattered, and apparently absent from much of the Ozark region: Clark, Linn, Randolph, Monroe, Pike, Lincoln, St. Charles, St. Louis, Jefferson, Perry, Mississippi, New Madrid, Pemiscot, Gasconade, Miller, Morgan, Saline, Livingston, Clay, Jackson, Lafayette, Henry, Greene, Bates, Vernon, Barton, Jasper, and Newton counties.

Iva xanthifolia Willd.

Fields, alluvial and waste ground. Indifferent. Northwestern and west-central Mo.: Atchison, Buchanan, and Jackson counties. Introduced from the Northwest.

Ambrosia bidentata Michx.

Rocky prairies, fields, and waste ground. Circumneutral to oxyophile. General.

Ambrosia bidentata × trifida.

Rarely occurring with the parent species. Local: Morgan Co.

Ambrosia trifida L. Horse-weed.

Ambrosia striata Rydb. (R).

Alluvial fields, borders of woods, and waste ground. Circumneutral. General and common.

Ambrosia trifida var. integrifolia (Muhl.) T. & G.

Sometimes found with the typical form.

Ambrosia artemisiæfolia L. var. *elatior* (L.) Desc. See Rh. 37: 185. 1935.
Ragweed, Roman Wormwood.

Ambrosia artemisiæfolia of auth., not L. (G), (B & B).

Fields and waste ground. Indifferent. General and common.

Ambrosia artemisiæfolia var. *elatior* f. *villosa* Fernald & Griscom, Rh. 37: 185.
1935.

Commonly occurring with the preceding variety. General.

Ambrosia pilostachya DC.

Rocky prairies, pastures, and glades. Circumneutral to oxyophile. Northern, central, and western Mo., absent from most of the Ozark region: Clark, Marion, Pike, Montgomery, St. Louis, St. Francois, Randolph, Boone, Carroll, Saline, Atchison, Holt, Andrew, Buchanan, Dekalb, Clinton, Jackson, Barton, and Jasper counties.

Ambrosia aptera DC.

Introduced in waste ground. St. Louis Co.

Xanthium acerosum Greene. Cocklebur.

Introduced in waste ground. Jackson Co.

Xanthium italicum Mor.

Xanthium glanduliferum Greene (R).

Xanthium commune Britton (G), (B & B).

Fields, roadsides, and waste ground. Indifferent. General.

Xanthium speciosum Kearney.

Cultivated fields and waste ground. Indifferent. Western Mo., scattered: Jackson, Cass, and Jasper counties.

Xanthium inflexum Mack. & Bush.

Low cultivated ground. Indifferent. Western Mo.: Jackson Co.

Xanthium echinatum Murr.

Cultivated and waste ground. Scattered: St. Louis, Jefferson, Jackson, and Jasper counties.

Xanthium globosum Shull, Bot. Gaz. 59: 482, figs. 1, 4, 5, 7. 1915.

Low alluvial fields, roadsides, and waste ground. Indifferent. Scattered: Randolph, Cass, and Jasper counties.

XANTHIUM SPINOSUM L.

Fields and waste ground. Indifferent. Eastern Mo.: St. Louis Co.

Xanthium pennsylvanicum Wallr.

Cultivated fields, roadsides, and waste ground. Indifferent. General.

Xanthium chinense Mill.

Xanthium canadense of auth., not Mill. (G).

Fields, roadsides, waste and alluvial ground, often in moist soil along ponds, sloughs, streams, and swampy open woods. Indifferent. General: Schuyler, Sullivan, Boone, Montgomery, Warren, St. Charles, St. Louis, Mississippi, New Madrid, Jefferson, Dent, Maries, Pettis, Linn, Jackson, Greene, Jasper, and McDonald counties.

Xanthium chinense × *pennsylvanicum*.

Occasionally found with the parent species. Knox and St. Louis counties.

Xanthium italicum × *pennsylvanicum*.

Occasionally found with the parent species. Montgomery and St. Louis counties.

Heliopsis scabra Dunal. Rough Ox-eye.

Rocky woods and thickets. Circumneutral. General.

Heliopsis helianthoides (L.) Sweet. Ox-eye.

Rocky woods and thickets. Circumneutral. Eastern and middle Mo.

Eclipta alba (L.) Hassk.

Moist fields, open ground, and borders of sloughs and ponds. Circumneutral. General, but commonest along the larger rivers.

Rudbeckia triloba L. Brown-eyed Susan.

Rocky woods, thickets, and open banks. Circumneutral. General.

Rudbeckia subtomentosa Pursh.

Moist open woods, thickets, and borders of prairie streams. Circumneutral. General.

Rudbeckia subtomentosa var. *Craigii* Sheriff, Rh. 14: 164. 1912.

Occasionally found with the typical form. St. Louis Co.

Rudbeckia speciosa Wenderoth.

Rocky open woods, glades, and thickets. Circumneutral. Southern Mo.: Iron, Shannon, Jasper, and Newton counties.

Rudbeckia palustris Eggert.

Wet ground about springs, wet ledges and banks. Calciphile to circumneutral. Southern Mo.: Iron, Wayne, Ripley, Dent, Shannon, Texas, Douglas, Ozark, and Taney counties.

Rudbeckia hirta L. Black-eyed Susan, Nigger Head.

Rudbeckia sericea Moore (S).

Rudbeckia longipes Moore (S).

Open woods, thickets, rocky prairies, and waste ground. Circumneutral. General and common.

Rudbeckia missouriensis Engelm.

Rudbeckia fulgida of auth. in part, not Ait. (G), (B & B).

Rocky prairies, glades, and bald knobs. Calciphile. Southern and central Mo. south and east of a line drawn from St. Charles, Montgomery, Boone, Morgan, Hickory, and Polk counties to Benton Co. This species has been confused with *Rudbeckia fulgida* which is not known to occur in Mo.

Rudbeckia grandiflora Gmel.

Dry open ground. Eastern Ozark region: Washington and Shannon counties, and also introduced in Boone and Jackson counties.

Rudbeckia laciniata L.

Low open woods, alluvial thickets, and banks of small streams. Circumneutral. General.

Rudbeckia maxima Nutt.

Open and waste ground. Introduced from the southwest. Jackson Co.

Rudbeckia amplexicaulis Vahl.

Roadsides and waste ground. Circumneutral to calciphile. Introduced in western Mo.: Jackson, Jasper, and Newton counties.

Echinacea purpurea (L.) Moench. Purple Cone-flower.

Brauneria purpurea (L.) Britton (G).

Rocky open woods, thickets, and glades. Calciphile to circumneutral. General but commonest in southern and central Mo.

Echinacea angustifolia DC.

Upland prairies. Circumneutral. Northeastern Mo., local: Shelby Co.

Echinacea pallida Nutt.

Brauneria pallida (Nutt.) Britton (G).

Rocky prairies and glades. Calciphile to circumneutral. General.

Echinacea paradoxa (Norton) Britton.

Brauneria paradoxa Norton (G.).

Rocky prairies, glades and bald knobs. Southern Mo., central and western Ozark region: Phelps, Pulaski, Miller, Camden, Laclede, Benton, Dallas, Cedar, Greene, Ozark, Taney, Stone, and Barry counties.

Ratibida pinnata (Vent.) Barnhart.

Lepachys pinnata (Vent.) T. & G. (G.).

Rocky prairies, thickets, and borders of woods. Circumneutral. General.

Ratibida columnaris (Sims) D. Don.

Lepachys columnaris (Sims) T. & G. (G.).

Prairies, waste ground, and along roadsides and railroads. Circumneutral. Scattered: Marion, Lincoln, St. Louis, Clay, Jackson, Greene, and Jasper counties. Generally and perhaps everywhere introduced from farther west.

Ratibida columnaris f. pulcherrima (DC.) W. M. Sharp, Ann. Mo. Bot. Gard.

22: 70. 1935.

Lepachys columnaris var. *pulcherrima* (DC.) T. & G. (G.).

Waste ground. Introduced in Jackson Co.

Spilanthes americana (Mutis) Hieronymus var. *repens* (Walt.) A. H. Moore.

Low wet woods, and borders of swamps and bayous. Circumneutral. Southeastern Mo.: Bollinger, New Madrid, Pemiscot, Dunklin, Butler, and Ripley counties.

Helianthus annuus L. Sunflower.

Waste and cultivated ground. Indifferent. General but scattered.

Helianthus petiolaris Nutt. Prairie Sunflower, Kansas Sunflower.

Fields, roadsides, and waste ground. Circumneutral to oxylophilic. Scattered: Marion, St. Louis, Scott, Oregon, Jackson, and Jasper counties.

Helianthus divaricatus L.

Rocky woods and thickets. Circumneutral. Eastern Mo.: Marion, Ralls, Pike, St. Louis, Bollinger, New Madrid, Reynolds, and Oregon counties.

Helianthus lenticularis Dougl.

Waste ground. Introduced in Jackson Co.

Helianthus salicifolius A. Dietr. See Papers Mich. Acad. Sci. 9: 333. 1929.

Helianthus orgyalis DC. (G), (B & B).

Upland prairies and limestone glades. Calciphile. Western Mo.: Jackson, Henry, Bates, Vernon, and Jasper counties.

Helianthus atrorubens L. var. *pubescens* Ktze. See Rh. 34: 1-2. 1932.

Dry open ground. Circumneutral. Southern Mo.: Scott, Stoddard, Dunklin, Butler, Wayne, Carter, Ripley, Oregon, Howell, and Ozark counties.

Helianthus rigidus (Cass.) Desf. See Papers Mich. Acad. Sci. 9: 344. 1929.

Helianthus scaberrimus Ell. (G), (B & B).

Rocky open woods, thickets, and prairies. Circumneutral. General except in Southeastern lowlands and parts of the Ozark region.

Helianthus laetiflorus Pers.

Prairies, thickets, and open banks. Circumneutral. Scattered: Ralls, St. Louis, Jefferson, and Jackson counties.

Helianthus occidentalis Riddell.

Rocky open woods, prairies, and glades. Circumneutral to calciphile. Central and southern Mo.: St. Louis, Franklin, Washington, St. Francois, Crawford, Maries, Phelps, Pulaski, Dent, Shannon, Oregon, Howell, Texas, Wright, Douglas, Camden, Dallas, Barry, Vernon, Jasper, and McDonald counties.

Helianthus mollis Lam.

Prairies, fields, thickets, and roadsides. Circumneutral. General.

Helianthus grosseserratus Martens.

Fields, prairies, and borders of small streams. Circumneutral. Northern, central, and western Mo. Known south of the Missouri River in St. Louis, Jefferson, Iron, Moniteau, Hickory, Cooper, Saline, Pettis, Lafayette, Johnson, Henry, Greene, Jackson, Cass, Bates, Barton, and Jasper counties, and in all of the northern counties.

Helianthus Maximiliani Schrad.

Rocky prairies, glades, loess hills, and bald knobs. Circumneutral to calciphile. Western and southern Mo., scattered: Atchison, Jackson, Ozark, Taney, Stone, and Barry counties.

Helianthus microcephalus T. & G. Small Woods Sunflower.

Moist open woods and thickets. Circumneutral to oxylophile. Southeastern Mo.: Iron, Scott, and Dunklin counties.

Helianthus doronicoides Lam.

Open woods, thickets, and prairies. Circumneutral. Scattered: Schuyler, Boone, St. Louis, Shannon, and Jasper counties.

Helianthus formosus E. E. Wats. Papers Mich. Acad. Sci. 9: 445, pl. 72. 1929.

Open woods and along bluffs. Circumneutral to calciphile. Eastern and southern Mo.: Marion, St. Louis, Jefferson, Shannon, and Greene counties.

Helianthus angustifolius L.

Sandy open woods and prairies. Oxylophile. Southeastern Mo.: Scott, Mississippi, and Butler counties.

Helianthus hirsutus Raf.

Helianthus leptocaulis (Wats.) Blake.

Rocky open woods, thickets, and prairies. Circumneutral. General.
Helianthus hirsutus var. *trachyphyllus* T. & G.

Prairies and thickets. Occasionally found with the typical form. Jasper Co.
Helianthus hirsutus var. *leoninus* (E. E. Wats.) Palmer & Steyermark, comb. nov.

Helianthus leoninus E. E. Wats.

Helianthus viridis E. E. Wats.

Open woods and roadsides. Circumneutral. Scattered: Marion, Lafayette, Clay, Jackson, and Buchanan counties.

Helianthus strumosus L.

Prairie swales and moist ground along streams. Circumneutral. General but scattered: Marion, Ralls, Pike, St. Louis, Crawford, Dunklin, Boone, Taney, Jackson, and Jasper counties.

Helianthus tracheliiifolius Mill.

Introduced in waste ground. Jackson Co.

Helianthus decapetalus L.

Open woods, thickets, and prairies. General but scattered: Marion, Ralls, Boone, Dunklin, and Jasper counties.

Helianthus tuberosus L. Jerusalem Artichoke.

Moist woods and thickets, wet prairies, and waste ground. Circumneutral. General.

Helianthus tuberosus var. *subcanescens* Gray.

Helianthus subcanescens (Gray) E. E. Wats.

Helianthus mollissimus E. E. Wats.

Commonly found with the typical form. Scattered: Audrain, St. Louis, Jefferson, Jackson, and Jasper counties.

Helianthus instabilis E. E. Wats. Papers Mich. Acad. Sci. 9: 423. pl. 65. 1929.

Moist prairies and roadsides. Circumneutral. Scattered.

Verbesina encelioides (Cav.) Benth. & Hook. var. *exauriculata* Robinson & Greenman.

Introduced in waste ground. St. Louis and Jackson counties.

Verbesina virginica L. White Crown-beard.

Rocky open woods and thickets. Circumneutral. East-central and southern Mo.: St. Louis, Jefferson, Franklin, Washington, Dent, Iron, Scott, Stoddard, Dunklin, Shannon, Texas, Howell, Phelps, Pulaski, Douglas, Ozark, Taney, Greene, Webster, Stone, Barry, Vernon, Barton, Jasper, Newton, and McDonald counties.

Verbesina helianthoides Michx.

Rocky open woods and thickets. Circumneutral. General.

Actinomeris alternifolia (L.) DC.

Low open woods and thickets. Circumneutral. General.

Coreopsis tinctoria Nutt.

Glades and sandy or rocky open ground. Oxyophile to circumneutral. Scattered: Schuyler, Boone, Cole, Phelps, Butler, Ripley, Oregon, Jackson, Jasper, and Newton counties. Native in southern Mo., and escaped from cultivation northward.

Coreopsis lanceolata L. Tickseed Coreopsis.

Rocky prairies, glades, and fields. Oxyophile. Central and southern Mo. north to St. Louis, Saline, and Clay counties, and escaped from cultivation in Pike Co.

Coreopsis lanceolata var. *villosa* Michx.

Coreopsis crassifolia Ait. (B & B), (R).

Rocky prairies and glades. Oxyophile. East-central and southern Mo.: St. Louis, Jefferson, Franklin, Shannon, Texas, Howell, Ozark, Barry, Jasper, and McDonald counties.

Coreopsis grandiflora Hogg.

Prairies, meadows, glades, and thickets. Circumneutral to oxyophile. Western and southern Mo.: Wayne, Ripley, Jackson, Henry, St. Clair, Cedar, Bates, Vernon, Greene, Jasper, and Newton counties.

Coreopsis pubescens Ell. Star Tickseed.

Rocky open woods, thickets, and along gravelly beds of streams. Oxyophile to circumneutral. Eastern, central, and southern Mo.: Marion, St. Louis, Jefferson, Franklin, Washington, Crawford, Iron, Reynolds, Ripley, Shannon, Oregon, Howell, Texas, Pulaski, Miller, Dallas, Hickory, Polk, Wright, St. Clair, Cedar, Greene, Taney, Douglas, Jasper, Newton, and McDonald counties.

Coreopsis palmata Nutt.

Open woods, glades, thickets, and rocky prairies. Circumneutral to oxyophile. General, but commonest in the Ozark region.

Coreopsis tripteris L. Tall Tickseed.

Rocky open woods, bluffs, thickets, and prairies. Circumneutral to calciphile. General, but commonest in the Ozark region.

Coreopsis tripteris var. *Deamii* Standley, Rh. 32: 33. 1930.

Occasionally found with the typical form. Scattered: St. Louis, Oregon, Warren, Boone, DeKalb, Harrison, Mercer, and Saline counties.

Bidens discoidea (T. & G.) Britton.

Wet ground along streams, and about ponds. Circumneutral. Eastern Mo.: Lincoln, St. Louis, Jefferson, Cape Girardeau, and Butler counties.

Bidens frondosa L. Beggar-ticks.

Moist woods, thickets, and waste ground. Circumneutral. General.

Bidens vulgata Greene.

Moist ground along streams and about ponds, fields, thickets, and waste ground. Circumneutral. General but scattered: Marion, Pike, St. Louis, Shannon, Atchison, and Jackson counties.

Bidens vulgata var. *puberula* (Wiegand) Greene.

Occasionally found with the typical form. Western Mo.: Atchison and Jackson counties.

Bidens comosa (Gray) Wiegand.

Wet ground, borders of streams, sloughs, and ponds. Circumneutral. General but scattered: Putnam, Boone, Pike, St. Louis, Saline, Atchison, Clay, Jackson, and Greene counties.

Bidens comosa var. *acuta* Wiegand.

Occasionally found with the typical form. St. Louis, Perry, Carroll, Gentry, and Jackson counties.

Bidens connata Muhl. Swamp Beggar-ticks.

Wet borders of streams, ponds, and sloughs. Circumneutral. General but scattered: Marion, Pike, Boone, St. Louis, Saline, Atchison, Jackson, and Green counties.

Bidens cernua L. See Rh. 24: 206. 1922. Sticktight.

Muddy borders of slow streams, sloughs, and ponds. Circumneutral. General.

Bidens cernua var. elliptica Wiegand.

Occasionally found with the typical form. Western Mo.: Jackson and Jasper counties.

Bidens cernua var. integra Wiegand.

Frequently found throughout the range of the typical form.

Bidens laevis (L.) BSP.

Wet ground about sloughs and ponds. Circumneutral. Eastern Mo., south of the Missouri River: St. Louis, Jefferson, and Dunklin counties.

Bidens bipinnata L. Spanish Needles.

Open woods, thickets, fields, and waste ground. Circumneutral. General.

Bidens aristosa (Michx.) Britton.

Prairies, cultivated fields, and waste ground. Circumneutral. General, but most common in prairie regions and in alluvial valleys.

Bidens aristosa var. Fritcheyi Fernald, Rh. 15: 78. 1913.

Occasionally found with the typical form. Scattered: Marion, St. Louis, and Jasper counties.

Bidens aristosa var. mutica (Gray) Gattinger. See Rh. 15: 78. 1913.

Sometimes found with the typical form. Scattered: Lewis, Marion, Ralls, Pike, St. Louis, Phelps, Jackson, and Greene counties.

Bidens involucrata (Nutt.) Britton.

Wet prairies, cultivated or fallow fields, and waste ground. Circumneutral. General.

Bidens Beckii Torr. Water Marigold.

Wet ground about ponds and sloughs. Circumneutral. Eastern Mo., local: St. Louis Co.

Thelesperma trifidum (Poir.) Britton.

Rocky prairies and glades. Calciphile. Southwestern Mo., local: Greene Co.

Thelesperma gracile (Torr.) Gray.

Waste ground and along railroads. Introduced in Jackson Co.

Marshallia caespitosa Nutt.

Rocky or upland prairies and glades. Calciphile to circumneutral. Southwestern Mo.: Jasper and Newton counties.

Marshallia obovata (Walt.) Beadle & Boynton var. *platyphylla* (Curtis) Beadle & Boynton. False Scabish.

Glades and bald knobs. Calciphile. Southern Mo., local: Ozark Co.

GALINSOGA PARVIFLORA Cav.

Waste and cultivated ground. Indifferent. Scattered.

GALINSOGA CILIATA (Raf.) Blake, Rh. 24: 35. 1922.

Galinsoga parviflora var. *hispida* DC. (G).

Waste and cultivated ground. Indifferent. General.

Flaveria campestris Johnston.

Fields and waste ground. Introduced from farther west. Marion and Jackson counties.

Hymenopappus scabiosaeus L'Her.

Hymenopappus carolinensis (Lam.) Porter (G), (B & B), (R).

Rocky prairies, glades, bald knobs, and sandy open woods. Circumneutral to oxyophile. Southern Mo.: Scott, Mississippi, Taney, Stone, and Barry counties. This has been confused with *Hymenopappus corymbosus* which is not known in Mo.

Palafoxia callosa (Nutt.) T. & G.

Polypterus callosa (Nutt.) Gray (G).

Othake callosum (Nutt.) Bush (B & B).

Glades, bald knobs, rocky open ground, and along gravelly beds of streams. Calciphile. Southwestern Mo.: Douglas, Ozark, Greene, Taney, Stone, Barry, and McDonald counties.

Helenium nudiflorum Nutt. Sneezeweed.

Helenium campestre Small (S).

Helenium polypodium Small (R).

Moist ground, meadows and fields, and borders of ponds, sloughs, and streams. Circumneutral. General, but commonest in central and southern Mo.

Helenium autumnale L.

Helenium latifolium Mill. (R), (S).

Helenium altissimum Link (R).

Moist ground, prairie swales, and borders of ponds and streams. Circumneutral. General and common.

Helenium tenuifolium Nutt. Bitterweed, Yellow Dog Fennel.

Fields and waste ground. Oxyophile. General, but commonest in the Ozark region. Generally and perhaps everywhere introduced from farther south, and sometimes becoming a troublesome weed.

Gaillardia lutea Greene.

Moist sandy open ground. Oxyophile to circumneutral. Southeastern Mo., local: Dunklin Co.

Gaillardia pulchella Foug. Indian Blanket.

Fields and waste ground. Circumneutral. Introduced or escaped from cultivation. Pike, Platte, and Jackson counties.

TAGETES ERECTA L.

Roadsides and waste ground. Escaped from cultivation. Scattered: Marion, St. Louis, and St. Francois counties.

Dysosodia papposa (Vent.) Hitchc. Fetid Marigold.

Dry prairies, fields, and waste ground. Circumneutral to oxyophile. General.

Achillea Millefolium L. Yarrow.

Prairies, thickets, and waste ground. Indifferent. General and common.

Achillea Millefolium f. *rosea* Rand & Redfield.

Commonly occurring with the typical form. General.

Achillea lanulosa Nutt.

Fields and waste ground. Circumneutral. Scattered: Sullivan, Marion, Monroe, St. Louis, Linn, Moniteau, Wright, and Vernon counties.

ANTHEMIS COTULA L. Dog Fennel.

Fields and waste ground; frequently about dwellings. Indifferent. General.

ANTHEMIS ARvensis L. var. AGRESTIS (Wallr.) DC. Corn Chamomile.

Fields and waste ground. Indifferent. Scattered: Jackson and Jasper counties.

ANTHEMIS TINCTORIA L. Yellow Chamomile.

Escaped from cultivation. Local: Greene Co.

MATRICARIA CHAMOMILLA L. Wild Chamomile.

Introduced in waste ground. Indifferent. Scattered: St. Louis and Phelps counties.

MATRICARIA MATRICARIOIDES (Less.) Porter. Pineapple Weed.

Matricaria suaveolens (Pursh) Buchenau (G), (B & B).

Rocky waste ground, fields, and roadsides. Oxylophile to circumneutral. Central and southern Mo., scattered: St. Louis, Jefferson, Franklin, Jasper, and Newton counties.

CHYSANTHEMUM LEUCANTHEMUM L. Ox-eye Daisy.

Fields, pastures, roadsides, and waste ground. Scattered: St. Louis, Boone, Platte, and Jackson counties.

CHYSANTHEMUM LEUCANTHEMUM var. PINNATIFIDUM Lecoq & Lamotte.

Fields, rocky pastures, and waste ground. Indifferent. General and more common than the typical form.

TANACETUM VULGARE L. Tansy.

Fields and waste ground. Indifferent. General but scattered.

TANACETUM VULGARE var. CRISPUM DC.

Rarely found with the typical form. Boone Co.

Artemisia dracunculus L. var. glauca Jepson.

Artemisia dracunculoides Pursh (G), (B & B).

Prairies, rocky or alluvial banks, and loess hills. Calciphile to circumneutral. Northern Mo., scattered: Clark, Holt, Buchanan, and Jackson counties.

Artemisia campestris L. var. caudata (Michx.) Palmer & Steyermark, comb. nov.
Wild Wormwood.

Artemisia caudata Michx. (G), (B & B).

Artemisia campestris subsp. *caudata* (Michx.) Hall & Clements.

Glades, bluffs, and gravel bars of streams. Oxylophile. Eastern Mo., south of the Missouri River: St. Louis, Jefferson, Dent, and Shannon counties.

Artemisia frigida Willd. Wormwood Sage.

Waste ground. Introduced from farther west. Jackson Co.

ARTEMISIA ANNUA L. Wormwood.

Fields, and rocky or waste ground. Indifferent. Eastern, central, and southern Mo., commonest in the Ozark region.

Artemisia biennis Willd.

Waste ground and gravel bars of streams. Circumneutral. Scattered: St. Louis, Iron, Clay, and Jackson counties.

Artemisia vulgaris L. var. ludoviciana (Nutt.) Ktze. Mugwort.

Artemisia ludoviciana Nutt. (G) in part, (B & B).

Rocky prairies, pastures, and glades. Calciphile to circumneutral. General but scattered.

Artemisia vulgaris var. *Wrightii* (Gray) Palmer & Steyermark, comb. nov.

Artemisia Wrightii Gray.

Artemisia vulgaris subsp. *Wrightii* Hall & Clements.

Artemisia kansana Britton (G), (B & B).

Artemisia Carruthii Wood.

Waste ground. Introduced from the Southwest. Jackson Co.

Artemisia vulgaris var. *gnaphalodes* (Nutt.) Ktze.

Artemisia gnaphalodes Nutt. (B & B).

Artemisia ludoviciana of auth. in part, not Nutt. (G) in part.

Upland prairies and glades. Circumneutral to calciphile. Northern, central, and western Mo.: Clark, Knox, Adair, Marion, Ralls, St. Charles, St. Louis, Mercer, Worth, Grundy, Carroll, Saline, Harrison, Caldwell, Gentry, DeKalb, Atchison, Holt, Clinton, Clay, Jackson, and Dade counties.

Artemisia vulgaris var. *mexicana* (Willd.) Torr. & Gray.

Artemisia mexicana Willd. (B & B).

Artemisia Lindheimeriana Scheele.

Rocky prairies and glades. Calciphile to circumneutral. Western and middle Mo.: Phelps, Macon, Chariton, Boone, Saline, Henry, Jackson, Barton, Jasper, and Newton counties.

Erechtites hieracifolia (L.) Raf. var. *intermedia* Fernald, Rh. 19: 27. 1917.

Fireweed.

Erechtites hieracifolia of auth. in part (G), (B & B).

Rocky open woods, thickets, and waste ground; also often in burned-over woods. Indifferent. General. The typical form is of more northern range and is not known in Missouri.

Cacalia striplicifolia L.

Open woods and thickets. Circumneutral. General.

Cacalia suaveolens L.

Rich or wet open woods. Circumneutral. East-central Mo.: Warren, St. Louis, and Jefferson counties.

Cacalia reniformis Muhl.

Rich or moist rocky woods. Circumneutral. Eastern, middle, and southern Mo.: Putnam, Sullivan, Schuyler, Adair, Clark, Ralls, Boone, Montgomery, Warren, St. Louis, Jefferson, Franklin, Ste. Genevieve, Cape Girardeau, Bollinger, Shannon, Texas, Howell, Douglas, Barry, and McDonald counties.

Cacalia tuberosa Nutt. Indian Plantain.

Prairies and limestone glades. Calciphile to circumneutral. General but commonest in the glades of the Ozark region.

Senecio glabellus Poir. Butter-weed.

Low alluvial ground along streams, and borders of sloughs and swamps. Circumneutral. Northern, eastern, and central Mo., mostly along the larger rivers: Shelby, Ralls, Lincoln, St. Louis, Jefferson, Ste. Genevieve, Bollinger, Mississippi, Pemiscot, Dunklin, Stoddard, Butler, Ripley, Oregon, Linn, Livingston, Boone, Howard, Saline, Clay, and Jackson counties.

Senecio obovatus Muhl. Squaw-weed.

Rich woods and moist ledges along bluffs. Circumneutral to calciphile. Central and southern Mo., scattered: Jefferson, Boone, Phelps, Shannon, Greene, Taney, Vernon, Jasper, and McDonald counties.

Senecio obovatus var. rotundus Britton.

In similar situations to the preceding, but more common. Circumneutral. Central and southern Mo. south and east of a line drawn from St. Louis, Montgomery, Boone, and Morgan counties to Jasper Co.

Senecio obovatus var. umbratilis Greenman.

Occasionally found with the typical form. Circumneutral. Scattered. Shannon and Moniteau counties.

Senecio aureus L. Golden Ragwort, Squaw-weed.

Rich or rocky woods, and along spring brooks and streams. Circumneutral. General.

Senecio aureus var. semicordatus (Mack. & Bush) Greenman, Ann. Mo. Bot. Gard. 3: 129. 1916.

Senecio aureus × Balsamitae Greenman.

Prairies swales. Circumneutral. Western Mo., local: Jackson Co.

Senecio aureus var. gracilis (Pursh) Britton.

Moist woods and prairie swales. Circumneutral. Scattered: Randolph and Douglas counties.

Senecio plattensis Nutt. Prairie Ragwort.

Senecio pseudotomentosus Mack. & Bush (B & B).

Upland prairies, glades, rocky woods, and ledges. Circumneutral to calciphile. General.

Senecio pauperculus Michx. See Ann. Mo. Bot. Gard. 3: 159. 1916.

Senecio Balsamitae Muhl. (G), (B & B).

Senecio pauperulus var. *Balsamitae* (Muhl.) Fernald.

Prairies and meadows. Circumneutral. Northeastern and central Mo.: Adair, Macon, Knox, Shelby, Marion, Ralls, Pike, Audrain, Randolph, Boone, Callaway, Moniteau, Pettis, and Henry counties.

ARCTIUM MINUS Bernh. Burdock.

Waste ground, frequently about dwellings. Indifferent. General and common.

ARCTIUM TOMENTOSUM Mill. See Rh. 12: 44–45. 1910.

Waste ground. Introduced in Jackson Co.

CARDUUS CRISPUS L. Curly Thistle.

Waste ground and roadsides. Introduced in St. Louis Co.

CIRSIUM LANCEOLATUM (L.) Hill. Bull Thistle.

Fields, pastures, and waste ground. Indifferent. General.

Cirsium undulatum (Nutt.) Spreng. var. *megacephalum* (Gray) Fernald.

Loess hills and prairies. Scattered: Wayne, Atchison, and Jackson counties.

Cirsium discolor (Muhl.) Spreng.

Prairies, thickets, and open woods. Circumneutral. General but scattered: Mercer, Marion, Boone, St. Louis, Dunklin, Vernon, Barton, and Jasper counties.

Cirsium odoratum (Muhl.) Petrak, Beih. z. Bot. Centralbl. II, 35: 378–381. 1917.

Cirsium pumilum Spreng. (G).

Cirsium Hällii (Canby) Fernald (G), (B & B).

Waste ground. Introduced in St. Louis Co.

Cirsium ochrocentrum Gray var. *Helleri* (Small) Petrak, Beih. z. Bot. Centralbl. II. 35: 418-419. 1917.

Waste ground. Introduced in Jackson Co.

Cirsium altissimum (L.) Spreng. See Beih. z. Bot. Centralbl. II. 35: 396-400. 1917.

Cirsium iowense (Pammel) Fernald (R).

Thickets, dry open or low alluvial woods, and rocky slopes. Circumneutral to oxylophile. General. The characters used to distinguish *Cirsium iowense* do not seem constant and it intergrades freely with true *C. altissimum*.

Cirsium virginianum (L.) Michx.

Rocky open woods and thickets. Oxylophile to circumneutral. Southern Mo., eastern Ozark region: St. Francois, Iron, Madison, Wayne, Carter, Ripley, Dent, and Phelps counties.

Cirsium muticum Michx. Swamp Thistle.

Swampy ground. Circumneutral. Eastern Mo., south of the Missouri River: St. Louis and Shannon counties.

CIRSIMUM ARVENSE (L.) Scop. Canada Thistle.

Fields and waste ground. Indifferent. Scattered: Adair, St. Louis, Jefferson, St. Francois, and Jackson counties.

ONOPORDUM ACANTHUM L. Cotton Thistle, Scotch Thistle.

Waste ground. Indifferent. Southeastern Mo.: Iron, St. Francois, and Cape Girardeau counties.

CENTAUREA CYANUS L. Ragged Robin, Bachelor's Button.

Waste ground and roadsides. Escaped from cultivation. Indifferent. Scattered: Boone, Jackson, and Jasper counties.

CENTAUREA SOLSTITIALIS L. Barnaby's Thistle.

Fields and waste ground. Introduced in Boone Co.

CENTAUREA MELITENSIS L.

Waste ground. Introduced in Jackson Co.

CENTAUREA VOCHINENSIS Bernh.

Fields and waste ground. Introduced in Boone and St. Louis counties.

CENTAUREA MACULOSA Lam.

Old fields and waste ground. Scattered. Introduced in Boone and Howell counties.

CENTAUREA PICRIS Pall.

Waste ground. Introduced in Jackson Co.

Centaurea americana Nutt.

Rocky open woods, glades, and bald knobs. Southwestern Mo.: Barry and McDonald counties, and also introduced in St. Louis and Jackson counties.

Serinia oppositifolia (Raf.) Ktze.

Prairies, meadows, thickets, and glades or sandy open ground. Oxylophile. Southern and west-central Mo. and locally northwestward in Livingston Co.: St. Francois, Bollinger, Cape Girardeau, Wayne, Scott, Dent, Oregon, Maries, Cass, Henry, Livingston, Bates, Lawrence, Jasper, Newton, and McDonald counties.

CICHORIUM INTYBUS L. Chicory.

Fields, pastures, and waste ground. Indifferent. General but commonest in eastern Mo.

Krigia virginica (L.) Willd. Dwarf Dandelion.

Rocky open ground, glades, and fallow fields. Oxylophilic. Eastern and southern Mo.: Montgomery, Lincoln, Jefferson, St. Francois, Ste. Genevieve, Madison, Wayne, Iron, Gasconade, Texas, Polk, Henry, Greene, Ozark, Lawrence, Jasper, Newton, and McDonald counties.

Krigia biflora (Walt.) Blake, Rh. 17: 135. 1915.

Krigia amplexicaulis Nutt. (G).

Cynthia virginica (L.) D. Don (B & B), in part.

Rocky open woods, low ground along streams, thickets, and prairies. Circumneutral to oxylophilic. General and common.

Krigia Dandelion (L.) Nutt.

Prairies, glades, borders of woods, sandy fields, and alluvial or low sandy woods. Oxylophilic. Central and southern Mo.: Montgomery, St. Louis, Jefferson, Franklin, Washington, St. Francois, Ste. Genevieve, Madison, Bollinger, Crawford, Iron, Wayne, Ripley, Dunklin, Oregon, Reynolds, Dent, Carter, Gasconade, Shannon, Phelps, Maries, Pulaski, Texas, Laclede, Douglas, Howell, Henry, Polk, Cedar, Webster, Vernon, Greene, Jasper, Newton, and McDonald counties.

Krigia occidentalis Nutt.

Cymbia occidentalis (Nutt.) Standley (B & B).

Rocky open woods and glades. Oxylophilic. Southwestern Mo.: Jasper and McDonald counties. This species has often been confused with *Krigia virginica* and *Serina oppositifolia*.

PICRIS SPRENGERIANA Poir. See Bull. Mo. Bot. Gard. 19: 121. 1931.

Waste ground. Introduced in St. Louis Co.

TRAGOPOGON PRATENSIS L. Goat's Beard.

Fields, meadows, and along roadsides and railroads. Indifferent. General: Lincoln, St. Charles, St. Louis, Jefferson, St. Francois, Madison, Maries, Schuyler, Adair, Mercer, Daviess, Laclede, Atchison, Nodaway, and Platte counties, and spreading state-wide.

TRAGOPOGON PORRIFOLIUS L. Vegetable Oyster, Salsify.

Fields and waste ground. Escaped from cultivation. Indifferent. Scattered: Boone, St. Louis, Pulaski, Camden, and Jackson counties.

TARAXACUM PALUSTRE (Lyons) Lam. & DC. var. *VULGARE* (Lam.) Fernald, Rh. 35: 380. 1933. Dandelion.

Taraxacum officinale Weber (G).

Leontodon Taraxacum L. (B & B).

Fields and waste ground; common about dwellings. Indifferent. General.

TARAXACUM LAEVIGATUM (Willd.) DC. See Rh. 35: 379. 1933. Red-seeded Dandelion.

Taraxacum erythrospermum Andr. (G).

Leontodon erythrospermum (Andr.) Britton (B & B).

Fields and waste ground about dwellings. Indifferent. General.

Crepis setosa Hall. Hawk's Beard.

Fields and waste ground. Introduced in Boone Co.

CREPIS CAPILLARIS (L.) Wallr.

Open ground. Introduced in St. Louis Co.

SONCHUS ARVENSIS L. Sow Thistle.

Waste ground. Indifferent. Introduced in Jackson Co.

SONCHUS OLERACEUS L. Common Sow Thistle.

Fields and waste ground. Indifferent. General.

SONCHUS ASPER (L.) Hill.

Fields and waste ground. Indifferent. General.

LACTUCA SALIGNA L.

Roadsides and waste ground. Indifferent. Scattered: Marion, Pike, Monroe, St. Louis, Maries, Phelps, Pulaski, LaClede, Saline, Pettis, Dallas, Wright, Webster, Douglas, Greene, and Barry counties.

LACTUCA SCARIOLA L. Prickly Wild Lettuce.

Roadsides and waste ground. Indifferent. General.

LACTUCA SCARIOLA var. *INTEGRATA* Gren. & Godr.

Commonly found with the typical form. General.

Lactuca canadensis L. var. *typica* Wiegand, Rh. 22: 10. 1920.

L. canadensis L., in part (G), (B & B).

Fields, thickets, and waste ground. Indifferent. General but scattered.

Lactuca canadensis var. *latifolia* Ktze.

Occasionally found with the typical form. Scattered: St. Charles, St. Louis, Jefferson, Boone, Clinton, and Jasper counties.

Lactuca canadensis var. *latifolia* f. *exauriculata* Wiegand, Rh. 22: 11. 1920.

Sometimes found with the typical and other varieties. Scattered: St. Francois, Howell, and Hickory counties.

Lactuca canadensis var. *integrifolia* (Bigel.) T. & G.

Lactuca sagittifolia Ell. (G), (B & B).

Lactuca canadensis var. *montana* Britton (B & B).

Thickets and waste ground. Indifferent. General but scattered: Boone, St. Louis, Dunklin, Jackson, Henry, and Jasper counties.

Lactuca canadensis var. *integrifolia* f. *angustata* Wiegand, Rh. 22: 11. 1920.

Occasionally found with the other forms. St. Louis Co.

Lactuca canadensis var. *obovata* Wiegand, Rh. 22: 11. 1920.

Lactuca integrifolia of auth., not Bigel. (G).

Thickets, fields and waste ground. Scattered: St. Louis, Ste. Genevieve, Mississippi, Boone, Jackson, and Taney counties.

Lactuca canadensis var. *obovata* f. *stenopoda* Wiegand, Rh. 22: 11. 1920.

Occasionally occurring with the variety. Lincoln Co.

Lactuca ludoviciana (Nutt.) Riddell.

Plains and waste ground. Circumneutral. Northwestern Mo.: Atchison Co.

Lactuca hirsuta Muhl.

Dry open woods and waste ground. Circumneutral. Southwestern Mo., local: Jasper Co.

Lactuca villosa Jacq.

Open woods and thickets. Circumneutral. General.

Lactuca pulchella (Pursh) DC.

Moist open ground and loess hills. Calciphile. Western Mo.: Atchison and Jackson counties.

Lactuca floridana (L.) Gaertn.

Open woods and thickets. Circumneutral. General.

Lactuca graminifolia Michx.

Introduced along railroads. Butler Co.

Lygodesmia juncea (Pursh) D. Don.

Loess hills. Calciphile. Northwestern Mo.: Atchison, Holt, and Buchanan counties.

Agoseris cuspidata (Pursh) Steud.

Prairies and glades. Calciphile. West-central Mo., local: Jackson Co.

Pyrrhopappus carolinianus (Walt.) DC. False Dandelion.

Prairies, fields, and waste ground. Circumneutral. General.

Prenanthes altissima L. var. *cinnamomea* Fernald.

Rocky woods and bluffs. Circumneutral. Eastern and middle Missouri, mostly in the eastern Ozark region: Boone, Warren, St. Louis, Jefferson, Ste. Genevieve, Wayne, Iron, Dunklin, Carter, Shannon, Texas, and Ozark counties.

Prenanthes alba L. Rattlesnake-root, White Snake-root.

Rich or rocky woods. Circumneutral to oxylophile. Eastern Mo.: Clark, Marion, St. Louis, Franklin, and Gasconade counties.

Prenanthes aspera Michx.

Rocky open woods and prairies. Circumneutral. General but scattered.

Prenanthes crepidinea Michx.

Open woods and thickets. Circumneutral. East-central and southern Mo.: Audrain, Boone, St. Louis, Washington, Wayne, Greene, and Taney counties.

Hieracium scabrum Michx. Hawkweed.

Rocky woods and thickets. Oxylophile. Eastern, middle, and southern Mo.: Adair, Boone, Callaway, Lincoln, St. Louis, Jefferson, St. Francois, Ste. Genevieve, Scott, Iron, Reynolds, Shannon, Dent, Wright, Greene, Stone, Jasper, and Newton counties.

Hieracium Gronovii L. See Rh. 37: 185. 1935.

Rocky open woods, thickets, and fields. Oxylophile. General. Several forms of this species have been confused with both *Hieracium venosum* and *Hieracium Traillii* (*Hieracium Greenii*) neither of which occur in Missouri.

Hieracium Gronovii var. *foliosum* Michx. See Rh. 37: 185. 1935.

Similar situations to the preceding. Oxylophile. Scattered in eastern, central, and southern Mo.: St. Louis, Jefferson, Shannon, Phelps, Ozark, Jasper, and Marion counties.

Hieracium longipilum Torr.

Rocky open woods and prairies. Oxylophile. Eastern, central, and southern Mo.: Marion, Boone, Callaway, Iron, Reynolds, Dent, Shannon, Texas, Morgan, Henry, Hickory, Polk, Greene, Howell, Vernon, Barton, Jasper, and Newton counties.

TABULAR LIST OF FAMILIES

Families	Genera		Species		Varieties		Forms		Hybrids	
	Native	Introd.	Native	Introd.	Native	Introd.	Native	Introd.		
SPERMATOPHYTA										
GYMNOSPERMAE										
Pinaceae	3		4	2	1					
ANGIOSPERMAE										
MONOCOTYLEDONEAE										
Typhaceae	1		2							
Sparganiaceae	1		3							
Najadaceae	4		11	1	4					
Alismaceae	5		13		3					
Hydrocharitaceae	2		2							
Gramineae	59	13	177	51	40	5	7	1		
Cyperaceae	12		166		22					
Araceae	3		4				1			
Lemnaceae	4		9		1					
Commelinaceae	2		13		1					
Xyridaceae	1		1							
Pontederiaceae	3		5							
Juncaceae	2		18				1			
Liliaceae	18	5	39	9	6		3			
Diocoreaceae	1		2		1					
Amaryllidaceae	3	1	3	1	1		1			
Iridaceae	3	1	9	4	1					
Marantaceae	1		1							
Orchidaceae	14		27		3					
DICOTYLEDONEAE										
Piperaceae	1		1							
Salicaceae	2		14	5	4	3	1	8		
Leitneriaceae	1		1							
Juglandaceae	2		10		8		3			
Betulaceae	5		6		2		1			
Fagaceae	3		23		8		3	16		
Ulmaceae	3		8		5					
Moraceae	3	2	3	4						
Urticaceae	5		7	1						
Santalaceae	1		1							
Loranthaceae	1		1							
Aristolochiaceae	2		2		3					
Polygonaceae	5	1	31	11	6	1	1			
Chenopodiaceae	7	2	19	13	8	3	4	2	1	
Amaranthaceae	5		9	4	3	1				
Phytolaccaceae	1		1							
Nyctaginaceae	1		5		1					
Illecebraceae	1		2							
Aizoaceae	1	1	1	1						

TABULAR LIST OF FAMILIES (Continued)

Families	Genera		Species		Varieties		Forms		Hybrids
	Native	Introd.	Native	Introd.	Native	Introd.	Native	Introd.	
Caryophyllaceae	5	5	11	16	4	1			1
Portulacaceae	3		6	2			1		
Ceratophyllaceae	1		1						
Nymphaeaceae	5		7	1					
Ranunculaceae	14		41	4	5		6		
Magnoliaceae	2		2		1				
Annonaceae	1		1						
Menispermaceae	3		3						
Berberidaceae	3		3						
Lauraceae	2		2		2				
Papaveraceae	3	2	5	4	1				
Fumariaceae	2		7		1				
Cruciferae	13	12	30	29	5	1			
Capparidaceae	2		3	1					
Crassulaceae	2		4	1					
Saxifragaceae	8		15		4		3		
Hamamelidaceae	2		3				2		
Platanaceae	1		1		1		1		
Rosaceae	15	2	111	14	48		6		3
Leguminosae	36	4	96	23	24		1		2
Oxalidaceae	1		4		5		4		
Geraniaceae	1	1	3	1	1				
Linaceae	1		4	1					
Zygophyllaceae	1	1	1	1					
Rutaceae	2	1	2	1					
Simarubaceae		1		1					
Polygalaceae	1		4		3				
Euphorbiaceae	7	2	26	3	2				
Callitrichaceae	1		1		1				
Anacardiaceae	2		6		2				
Aquifoliaceae	1		2		1				
Celastraceae	2		4						
Staphyleaceae	1		1						
Aceraceae	1		6		8		2		
Sapindaceae	1	1	1	1					
Hippocastanaceae	1		2		4				
Balsaminaceae	1		2	1					
Rhamnaceae	3		5	1	2				
Vitaceae	4		13		7				
Tiliaceae	1		2		2				
Malvaceae	4	4	10	10			1		
Hypericaceae	2		14	1					
Elatinaceae	2		2						
Tamaricaceae		1		1					
Cistaceae	2		3		3				
Violaceae	2		17	1					9

TABULAR LIST OF FAMILIES (Continued)

Families	Genera		Species		Varieties		Forms		Hybrids
	Native	Introd.	Native	Introd.	Native	Introd.	Native	Introd.	
Passifloraceae	1		2						
Loasaceae	1		1						
Cactaceae	2		2						
Thymelaeaceae	1		1		1				
Elaeagnaceae		1		1	1				
Lythraceae	5		5	1	1				
Melastomaceae	1		2		1				
Onagraceae	7		27		3				
Haloragidaceae	2		3	1	2				
Araliaceae	2		3						
Umbelliferae	23	9	32	10	5				
Cornaceae	2		8				1		
Ericaceae	3		6		6				
Primulaceae	7	1	10	2	2	1			
Sapotaceae	1		2		2		1		
Ebenaceae	1		1				1		
Styracaceae	1		1						
Oleaceae	3		7		3				
Loganiaceae	2		2						
Gentianaceae	4	1	9	1	1				
Apocynaceae	3	1	7	1	7				
Aselepiadaceae	5		21		3		1		
Convolvulaceae	4		13	6	5				
Polemoniaceae	4		7		7		1		
Hydrophyllaceae	5		10						
Boraginaceae	8	2	13	7	4				
Verbenaceae	2		8		1		4		
Labiatae	18	6	49	18	14	1	2		
Solanaceae	2	5	19	10	3				
Serophulariaceae	21	3	44	8	11		2	1	
Lentibulariaceae	1		1		1				
Orobanchaceae	2		2						
Bignoniaceae	3		4						
Pedaliaceae		1		1					
Martyniaceae	1		1						
Acanthaceae	3		6		1				
Phrymaceae	1		1						
Plantaginaceae	1		10	1					
Rubiaceae	7		23		4				
Caprifoliaceae	5		15	1	6		1		
Valerianaceae	1		3		1				
Dipsacaceae		1		1					
Cucurbitaceae	5		5						
Campanulaceae	2		5	1					
Lobeliaceae	1		6		1				
Compositae	65	15	243	35	71	5	7	15	

SUMMARY BY DIVISIONS AND CLASSES

	Genera		Species		Varieties		Forms		Hybrids
	Native	Introd.	Native	Introd.	Native	Introd.	Native	Introd.	
Pteridophyta	26		52		13		5		
Spermatophyta	850	109	1785	336	442	24	69	4	60
Gymnospermae	3		4	2	1				
Angiospermae	847	109	1781	334	441	24	69	4	
Monocotyledoneae	139	20	509	68	89	5	14	1	
Dicotyledoneae	708	89	1272	266	352	19	55	3	60

SUMMARY BY MINOR GROUPS

Families	131
Genera	
Native	876
Introduced	109
Total	985
Species	
Native	1837
Introduced	336
Total	2173
Varieties	
Native	455
Introduced	24
Total	479
Forms	
Native	74
Introduced	4
Total	78
Hybrids	60
Total number of plants (species, varieties, forms, and hybrids)	2790

Of the 479 varieties listed 108 (such as *Utricularia vulgaris* var. *americana*, *Lonicera dioica* var. *glaucescens*) should be more properly counted in with the regular species, since they are the only representatives of particular species in the flora. This would bring the total number of species up to 2,281.

INDEX

Valid names of plants in ordinary Roman type, synonyms or otherwise invalid names in *italics*, new species varieties, forms, hybrids, and new combinations in bold face, and family names in Roman capitals.

	Page		Page
Abutilon Theophrasti	598	tuberculata var. prostrata	532
Acacia angustissima	573	tuberculata var. subnuda	533
angustissima var. hirta	573	Acorus Calamus	495
Prairie	573	Actaea alba	543
Acalypha digynica	588	brachypoda	543
<i>gracilens</i> of auth.	588	Actinomeris alternifolia	672
<i>gracilens</i> var. monococca	588	Adam-and-Eve	510
<i>ostryaefolia</i>	589	Adder's-mouth	510
<i>virginica</i>	588	Adder's-tongue	502
ACANTHACEAE	646	White	502
Acer floridanum	593	Yellow	502
Negundo	593	Aegilops cylindrica	463
Negundo var. interior	593	Aesculus arguta	594
Negundo var. texanum	593	<i>austrina</i>	594
Negundo var. violaceum	593	<i>discolor</i>	594
nigrum	593	<i>discolor</i> var. <i>mollis</i>	594
nigrum var. Palmeri	593	<i>glabra</i>	594
rubrum	593	<i>glabra</i> var. <i>arguta</i>	594
rubrum var. Drummondii	593	<i>glabra</i> var. <i>Buckleyi</i>	594
rubrum var. Drummondii f. ro-		<i>glabra</i> var. <i>leucodermis</i>	594
tundata	593	<i>glabra</i> var. <i>pallida</i>	594
rubrum var. tridens	593	<i>glabra</i> var. <i>Sargentii</i>	594
<i>Rugelii</i>	592	<i>Pavia</i> of auth.	594
saccharinum	593	<i>Afzellia macrophylla</i>	642
saccharum	592	Agalinis aspera	643
saccharum var. glaucum	592	<i>fasciculata</i>	643
saccharum f. <i>Rugelii</i>	592	Gattingeri	644
saccharum var. <i>Rugelii</i>	592	<i>heterophylla</i>	644
saccharum var. Schneekii	593	<i>purpurea</i>	643
ACERACEAE	592	Skinneriana	644
Acerates angustifolia	622	tenuifolia	643
<i>floridana</i> of auth.	622	<i>tenuifolia</i> var. <i>macrophylla</i>	643
<i>hirtella</i>	622	<i>tenuifolia</i> var. <i>parviflora</i>	644
<i>viridiflora</i>	622	<i>viridis</i>	644
<i>viridiflora</i> var. <i>lanceolata</i>	622	Agastache nepetoides	631
<i>viridiflora</i> var. <i>linearis</i>	622	<i>scrophulariaefolia</i>	631
Achillea lanulosa	675	<i>scrophulariaefolia</i> var. <i>mollis</i>	632
<i>Millefolium</i>	675	Agave virginica	506
<i>Millefolium</i> f. <i>rosea</i>	675	<i>virginica</i> f. <i>tigrina</i>	507
Aenida tamariscina	533	<i>virginica</i> var. <i>tigrina</i>	507
<i>tuberulata</i>	532	Agoseris cuspidata	682

	Page		Page
<i>Agrimonia gryposepala</i>	569	<i>mutable</i>	501
<i>microcarpa</i>	568	<i>Nuttallii</i>	501
<i>mollis</i>	568	<i>sativum</i>	501
<i>parviflora</i>	569	<i>stellatum</i>	501
<i>platyarpa</i>	569	<i>tricoecum</i>	501
<i>pubescens</i>	568	<i>vineale</i>	501
<i>rostellata</i>	569	<i>Alnus rugosa</i>	517
<i>Agropyron caninum</i> var. <i>tenerum</i>	463	<i>Aloe</i> , False	506
<i>pseudorepens</i>	463	<i>Alopeurus aequalis</i>	466
<i>repens</i> var. <i>subulatum</i>	462	<i>aristulatus</i>	466
<i>Smithii</i>	463	<i>carolinianus</i>	466
<i>tenerum</i>	463	<i>geniculatus</i>	466
<i>trachyeaulum</i> var. <i>typicum</i>	463	<i>geniculatus</i> of auth.	466
<i>Agrostemma Githago</i>	536	<i>geniculatus</i> var. <i>aristulatus</i>	466
<i>Agrostis alba</i>	466	<i>geniculatus</i> var. <i>ramosus</i>	466
<i>alba</i> var. <i>vulgaris</i>	466	<i>pratensis</i>	466
<i>Elliottiana</i>	466	<i>Alsine graminea</i>	535
<i>hyemalis</i>	466	<i>longifolia</i>	535
<i>interrupta</i>	465	<i>media</i>	535
<i>perennans</i>	466	<i>pubera</i>	535
<i>perennans</i> var. <i>aestivalis</i>	466	<i>Althaea rosea</i>	598
<i>scabra</i>	466	<i>Althea</i> , Shubby	599
<i>Schweinitzii</i>	466	<i>Alum Root</i>	553
<i>Spica-venti</i>	465	<i>Alyssum</i> , Hoary	547
<i>stolonifera</i>	466	<i>Amaranth</i>	
<i>tenuis</i>	466	Green	532
<i>Ague-weed</i>	619	Purple	532
<i>Ailanthus altissima</i>	587	Spiny	532
<i>glandulosa</i>	587	AMARANTHACEAE	532
<i>Aira pallens</i>	465	<i>Amaranthus blitoides</i>	532
AIZOACEAE	534	<i>graecizans</i>	532
<i>Alder</i>		<i>graecizans</i> var. <i>pubescens</i>	532
Black	592	<i>hybridus</i>	532
Smooth	517	<i>hybridus</i> var. <i>hypocondriacus</i>	532
<i>Alfalfa</i>	576	<i>Palmeri</i>	532
<i>Alisma Plantago-aquatica</i> of Am.		<i>paniculatus</i>	532
auth.	457	<i>retroflexus</i>	532
<i>subcordatum</i>	457	<i>spinulosus</i>	532
ALISMACEAE	456	AMARYLLIDACEAE	506
<i>Alkali Sacaton</i>	469	<i>Ambrosia aptera</i>	668
<i>Allionia albida</i>	534	<i>artemisiæfolia</i> var. <i>elatior</i>	668
<i>bracteata</i>	534	<i>artemisiæfolia</i> var. <i>elatior f. vil-</i>	
<i>lanceolata</i>	534	<i>losa</i>	668
<i>linearis</i>	534	<i>artemisiæfolia</i> of auth.	668
<i>nyctaginea</i>	533	<i>bidentata</i>	667
<i>Allium canadense</i>	501	<i>bidentata</i> × <i>trifida</i>	668
<i>cernuum</i>	501	<i>psilostachya</i>	668

Page	Page		
<i>striata</i>	668	<i>Elliottii</i> var. <i>projectus</i>	479
<i>trifida</i>	668	<i>furcatus</i>	479
<i>trifida</i> var. <i>integrifolia</i>	668	<i>provincialis</i>	479
<i>Amelanchier canadensis</i>	557	<i>provincialis</i> var. <i>chrysocomus</i>	479
<i>canadensis</i> var. <i>Botryapium</i>	557	<i>saccharoides</i>	479
<i>humilis</i>	557	<i>scoparius</i> var. <i>divergens</i>	479
American Barberry	544	<i>scoparius</i> var. <i>frequens</i>	479
Brooklime	154	<i>scoparius</i> var. <i>genuinus</i>	479
Columbo	619	<i>scoparius</i> var. <i>vilosissimus</i>	479
Crab	557	<i>ternaria</i>	479
Frog-bit	458	<i>Torreyanus</i>	479
Ipecac	556	<i>virginicus</i> var. <i>genuinus</i>	479
Spikenard	609	<i>virginicus</i> var. <i>tetraстachyus</i>	479
Amianthium muscaetoxicum	500	Androsace occidentalis	615
Ammannia auriculata	605	Anemone canadensis	542
<i>coccinea</i>	605	caroliniana	541
Amorpha brachycarpa	579	cylindrica	542
<i>canescens</i>	579	Prairie	541
<i>canescens</i> var. <i>glabrata</i>	579	virginiana	542
<i>eroeolanata</i>	579	virginiana f. <i>leucosepala</i>	542
<i>fruticosa</i>	579	White	542
<i>fruticosa</i> var. <i>angustifolia</i>	579	Anemonella thalictroides	541
<i>fruticosa</i> var. <i>oblongifolia</i>	579	Anethum graveolens	612
<i>fruticosa</i> var. <i>tennesseensis</i>	579	Angelica villosa	612
<i>tennesseensis</i>	579	Wood	612
Ampelopsis arborea	596	Angelico	610
<i>cordata</i>	596	Angle-pod	622
Amphiachyris dracunculoides	658	ANNONACEAE	544
Amphicarpa bracteata	584	Anoda cristata var. <i>brachyantha</i>	598
<i>comosa</i>	584	Antennaria ampla	666
<i>monoica</i>	584	calophylla	666
Pitcheri	584	fallax	666
Amphilophis saccharoides	479	longifolia	666
Amsinckia lycopersoides	628	neglecta	666
Amsonia ciliata var. <i>tenuifolia</i>	620	plantaginifolia	665
<i>illustris</i>	620	Anthemis arvensis var. <i>agrestis</i>	676
Tabernaemontana	619	Cotula	676
Tabernaemontana var. <i>Gattingeri</i>	620	tinctoria	676
Tabernaemontana var. <i>salicifolia</i>	620	Anthoxanthum odoratum	471
ANACARDIACEAE	591	Anychia canadensis	534
Anacharis occidentalis	457	polygonoides	534
Anagallis arvensis	616	Apera spica-venti	465
<i>arvensis</i> var. <i>caerulea</i>	616	Apios americana	583
Anaphalis margaritacea	666	<i>tuberosa</i>	583
Andrachne phyllanthoides	589	Aplectrum hyemale	510
Andropogon chrysocomus	479	Aplopappus ciliatus	658
<i>Elliptii</i>	479	APOCYNACEAE	619

Page	Page		
<i>Apocynum androsaemifolium</i>	620	<i>dichotoma</i> var. <i>Curtissii</i>	469
<i>cannabinum</i>	620	<i>fasciculata</i>	470
<i>cannabinum</i> var. <i>glaberrimum</i> ..	620	<i>gracilis</i>	469
<i>cannabinum</i> var. <i>hypericifolium</i>	620	<i>intermedia</i>	470
<i>cannabinum</i> var. <i>pubescens</i>	620	<i>lanosa</i>	470
<i>hypericifolium</i>	620	<i>longespica</i>	469
<i>hypericifolium</i> var. <i>cordigerum</i> ..	621	<i>oligantha</i>	469
<i>medium</i>	620	<i>purpurascens</i>	470
<i>medium</i> var. <i>leuconeuron</i>	620	<i>ramosissima</i>	469
<i>sylvaticum</i>	620	<i>Aristolochia Serpentaria</i>	524
<i>Apple</i>	556	<i>Serpentaria</i> var. <i>hastata</i>	525
<i>Apple-of-Peru</i>	638	<i>tomentosa</i>	525
AQUIFOLIACEAE	591	ARISTOLOCHIACEAE	524
<i>Aquilegia canadensis</i>	542	<i>Armoracia Armoracia</i>	550
<i>canadensis</i> var. <i>flaviflora</i>	542	<i>Arrhenatherum elatius</i>	465
<i>coccinea</i>	542	Arrow Arum	495
<i>Arabidopsis Thaliana</i>	549	Arrow-head	
<i>Arabis brachycarpa</i>	552	Broad-leaved	456
<i>canadensis</i>	552	Long-beaked	456
<i>dentata</i>	551	Short-beaked	456
<i>Drummondii</i>	552	Arrow-wood	651
<i>glabra</i>	552	<i>Artemisia annua</i>	676
<i>hirsuta</i>	552	<i>biennis</i>	676
<i>laevigata</i>	552	<i>campestris</i> subsp. <i>caudata</i>	676
<i>lyrata</i>	551	<i>campestris</i> var. <i>caudata</i>	676
<i>patens</i>	552	<i>Carruthi</i>	677
<i>virginica</i>	552	<i>caudata</i>	676
<i>viridis</i>	552	<i>dracunculoides</i>	676
ARACEAE	495	<i>dracunculus</i> var. <i>glauea</i>	676
<i>Aralia racemosa</i>	609	<i>frigida</i>	676
<i>spinosa</i>	608	<i>gnaphalodes</i>	677
ARALIACEAE	608	<i>kansana</i>	677
<i>Aretium minus</i>	678	<i>Lindheimeriana</i>	677
<i>tomentosum</i>	678	<i>ludoviciana</i> of auth.	676
<i>Arenaria patula</i>	535	<i>mexicana</i>	677
<i>serpyllifolia</i>	535	<i>vulgaris</i> var. <i>gnaphalodes</i>	677
<i>stricta</i> var. <i>texana</i>	535	<i>vulgaris</i> var. <i>ludoviciana</i>	676
<i>Argemone alba</i>	546	<i>vulgaris</i> var. <i>mexicana</i>	677
<i>intermedia</i>	546	<i>vulgaris</i> subsp. <i>Wrightii</i>	677
<i>mexicana</i>	546	<i>vulgaris</i> var. <i>Wrightii</i>	677
<i>Arisaema Dracontium</i>	495	<i>Wrightii</i>	677
<i>triphyllum</i>	495	Arthraxon hispidus var. <i>crypta-</i>	
<i>Aristida adscensionis</i>	470	<i>therus</i>	479
<i>basiramea</i>	469	<i>Arunceus sylvester</i>	556
<i>bromoides</i>	470	<i>Arundinaria gigantea</i>	458
<i>Curtisii</i>	469	<i>macroisperma</i>	458
<i>diehotoma</i>	469	<i>tecta</i>	458

Page	Page		
Arundo Donax	462	azureus × laevis	662
<i>Azarum canadense</i> var. <i>acuminatum</i>	524	commutatus	664
<i>canadense</i> var. <i>reflexum</i>	524	concininus	663
ASCLEPIADACEAE	621	cordifolius	662
<i>Asclepias amplexicaulis</i>	621	<i>cordifolius</i> var. <i>polycephalus</i>	662
<i>exaltata</i>	621	<i>depauperatus</i> var. <i>parviceps</i>	663
<i>floridana</i>	622	Drummondii	662
<i>humistrata</i>	621, 622	dumosus	664
<i>inearnata</i>	621	ericoides	663
<i>Jamesii</i>	622	<i>ericoides</i> of auth.	663
<i>kansana</i>	621	<i>ericoides</i> var. <i>platyphyllus</i>	663
<i>latifolia</i>	622	<i>ericoides</i> var. <i>prostratus</i>	663
<i>Meadii</i>	622	<i>ericoides</i> var. <i>villosum</i>	663
<i>pereennis</i>	622	exiguus	663
<i>phytolaccoides</i>	621	furcatus	662
<i>purpurascens</i>	621	Golden	658
<i>quadrifolia</i>	622	Heart-leaved	662
<i>speciosa</i>	621	hirtellus	662
<i>stenophylla</i>	622	interior	665
<i>Sullivantii</i>	621	laevis	663
<i>syriaca</i>	621	lateriflorus	664
<i>syriaca</i> of auth. in part	621	<i>lateriflorus</i> of auth.	664
<i>syriaca</i> var. <i>kansana</i>	621	<i>lateriflorus</i> var. <i>pendulus</i>	664
<i>tuberosa</i>	621	<i>lateriflorus</i> var. <i>pendulus</i> × <i>pantotrichus</i>	665
<i>tuberosa</i> f. <i>lutea</i>	621	lateriflorus var. <i>pendulus</i> × <i>praealtus</i>	665
<i>variegata</i>	622	<i>lateriflorus</i> var. <i>thyrsoides</i>	664
<i>verticillata</i>	622	linariifolius	665
Asclepiodora viridis	621	missouriensis	664
Aseyrum hypericoides	599	multiflorus	663
Ash		<i>multiflorus</i> var. <i>exiguus</i>	663
Blue	618	<i>multiflorus</i> var. <i>pansus</i>	663
Green	617	New England	662
Prickly	587	novae-angliae	662
Pumpkin	618	oblongifolius	662
Red	617	<i>oblongifolius</i> var. <i>rigidulus</i>	662
Wafer	587	paludosus	661
White	617	paniculatus	664
Asimina triloba	544	<i>paniculatus</i> var. <i>bellidiflorus</i>	664
Asparagus	503	<i>paniculatus</i> var. <i>simplex</i>	664
officinalis	503	panotrichus	664
Aspen		parviceps	663
Large-toothed	513	<i>parviceps</i> × <i>pilosus</i> var. <i>demotus</i>	664
Quaking	513	patens	662
Aster amethystinus	664	<i>patens</i> var. <i>gracilis</i>	662
angustus	664	<i>pilosus</i>	663
anomalus	662		
azureus	662		

Page	Page		
pilosus var. demotus	663	Balsam-apple, wild	653
pilosus var. platyphyllus	663	BALSAMINACEAE	544
polyphyllus	663	Baneberry, white	543
praealtus	664	Baptisia australis of auth.	575
praealtus var. subasper	664	<i>bracteata</i> of auth.	575
ptarmicoides	665	leucantha	575
sagittifolius	662	leucophaea	575
<i>salicifolius</i>	664	leucophaea × <i>vespertina</i>	575
<i>salicifolius</i> var. <i>subasper</i>	664	leucophaea var. <i>laevicaulis</i>	575
sericeus	662	sphaeroarpa	575
Tall White	664	vespertina	575
<i>Tradescantia</i> of auth.	665	Barbara <i>stricta</i>	550
turbinellus	662	<i>vulgaris</i>	550
<i>vimineus</i> of auth.	664	<i>vulgaris</i> var. <i>longisiliquosa</i>	550
<i>vimineus</i> var. <i>subdumosus</i>	664		
White Heath	663		
White Prairie	664	American	544
Willow-leaved	664	European	544
Astragalus canadensis	578	Japanese	544
caryocarpus	578	Barley	480
distortus	578	Beardless	464
lotiflorus	578	Meadow	464
mexicanus	578	Barnyard Grass	470
Atriplex argentea	531	Bastard Toadflax	524
patula	531	Batodendron andrachnaeiforme	614
patula var. <i>hastata</i>	531	<i>glaucescens</i>	614
rosea	531	Bayonet Grass	485
August Flower	658	Bean, wild	584
Aureolaria calycosa	642	Bear Grass	502
flava var. <i>macrantha</i>	642	Beard Grass	478, 479
grandiflora var. <i>cinerea</i>	642	Old Field	479
grandiflora var. <i>pulchra</i>	642	Prairie	479
pectinata	642	Silvery	479
Avena fatua	465	Woolly	478
sativa	465	Beard-tongue	639
Avens		Beckmannia erucaeformis of Am. auth.	470
Early Water	567	<i>Syzigachne</i>	470
Rough	567	Bedstraw	
Axyris amaranthoides	531	Fragrant	648
Azalea nudiflora	614	Northern	648
		Shining	648
B		<i>Bee Balm</i>	633
Bachelor's Button	679	Beech	517
Bacopa acuminata	641	Blue	517
<i>rotundifolia</i>	641	<i>Beech-drops</i>	645
Balloon Vine	594	<i>Beef-steak Plant</i>	636

Page	Page		
Beggar's Lice	579, 580, 627	Bignonia capreolata	645
Beggar's Ticks	579, 580	<i>radicans</i>	645
Beggar-ticks	673	BIGNONIACEAE	645
Swamp	674	Bindweed	623
Belamcanda chinensis	507	Black	528
Bellflower		Hedge	624
Creeping	653	Small	624
Tall	653	Birch, River	517
Bellis integrifolia	661	Bitter-sweet	592
Bellwort		Bitterweed	675
Large	501	Blackberry, High-bush	567
Small	501	Black-eyed Susan	664
Belvedere	529	Bladder-nut	592
Benne	645	Bladder-pod, Slender	644
Benzoin aestivale	545	Bladderwort, Large	547
<aestivale< a=""> var. <i>pubescens</i></aestivale<>	545	Blazing Star	656
<i>meliissaefolium</i>	545	Blephilia ciliata	634
BERBERIDACEAE	544	<h3>hirsuta</h3>	634
Berberis canadensis	544	Blind Eyes	546
Thunbergii	545	Blood-leaf	533
vulgaris	544	Bloodroot	545
Berchemia scandens	595	Blue	
Bergia texana	600	Curls	630
Bergamot, wild	633	Devil	662
Berlandiera texana	667	Hearts	644
Bermuda Grass	470	Bluebell	542, 653
Berteroia incana	547	Bluebells	628
Betula nigra	517	Blueberry, Low-bush	614
BETULACEAE	516	Blue-eyed Grass	508
Bidens aristosa	674	Blue-eyed-Mary	639
aristosa var. <i>Fritscheyi</i>	674	Blue-joint	463
aristosa var. <i>mutica</i>	674	Blue-joint Grass	465
Beckii	674	Blue-stem	479
bipinnata	674	Blue-weed	629
cernua	674	Bluets	648
cernua var. <i>elliptica</i>	674	Small	648
cernua var. <i>integra</i>	674	Bodarc	523
comosa	673	Boehmeria cylindrica	524
comosa var. <i>acuta</i>	673	Boltonia <i>as*eroides</i>	661
connata	674	<i>asteroides</i> var. <i>decurvens</i>	661
discoidea	673	diffusa	661
frondosa	673	latissquama	661
involucrata	674	Boneset	656
laevis	674	False	656
vulgata	673	Upland	656
vulgata var. <i>puberula</i>	673	BORAGINACEAE	627

Page	Page		
Bottle-brush	464	Brown-eyed Susan	669
Bouncing Bet	537	Brunichia cirrhosa	528
Bouteloua curtipendula	471	Buchloë dactyloides	471
<i>gracilis</i>	471	Buchnera americana	644
<i>hirsuta</i>	471	Buck Brush	649
<i>oligostachya</i>	471	Buckeye	
Box Elder	593	Ohio	594
Brachelytrum erectum	469	Red-flowered	594
Bromia rotundifolia	641	Buckthorn	595
Brasenia Schreberi	539	Southern	616
Brassica alba	548	Buckwheat	528
<i>arvensis</i>	548	Climbing	528
<i>campestris</i>	549	Climbing False	528
<i>japonica</i>	549	Buffalo Bur	637
<i>juncea</i>	548	Grass	471
<i>nigra</i>	549	Bug-seed	531, 532
Brauneria pallida	670	Bugbane	543
<i>paradoxa</i>	670	False	541
<i>purpurea</i>	670	Bugle Weed	635
Bread-root, Indian	576	Bull Nettle	636
Brickellia grandiflora	656	Bulrush	
Brier		Common	485
Cat	506	Great	484
Green	506	River	485
Sensitive	573	Bumelia lanuginosa	616
Brome Grass, Hungarian	458	lycioides	616
Bromus altissimus	458	Bunch-flower	500
<i>altissimus</i> f. <i>incanus</i>	458	Bupleurum rotundifolium	611
<i>arvensis</i>	459	Bur, Buffalo	637
<i>breviaristatus</i>	458	Bur Grass	473
<i>catharticus</i>	458	Bur-head, Creeping	457
<i>commutatus</i>	459	Bur-reed	454, 455
<i>hordeaceus</i> of auth.	458	Burdock	678
<i>incanus</i>	458	Burning Bush	592
<i>inermis</i>	458	Butter and Eggs	630
<i>japonicus</i>	459	Buttercup	
<i>latiglumis</i>	458	Creeping	540
<i>latiglumis</i> f. <i>ineanus</i>	458	Meadow	541
<i>mollis</i>	458	Prairie	540
<i>purgans</i>	458	Swamp	540
<i>purgans</i> var. <i>latiglumis</i>	458	Butterfly-weed	621
<i>racemosus</i>	459	Butternut	514
<i>secalinus</i>	458	Butter-weed	677
<i>teetorum</i>	458	Button-bush	649
<i>unioloides</i>	458	Button-weed	648
Brooklime, American	642	Rough	648
Broussonetia papyrifera	523	Smooth	648

C	Page	Cane	Page
<i>Cabomba caroliniana</i>	539	Giant	458
<i>Caesalia striplicifolia</i>	677	Sorghum	480
<i>reniformis</i>	677	Switch	458
<i>suaveolens</i>	677	<i>Cannabis sativa</i>	523
<i>tuberosa</i>	677	<i>Capnoidea campestris</i>	546
CACTACEAE	604	CAPPARIDACEAE	552
<i>Cactus, Nipple</i>	604	CAPRIFOLIACEAE	650
<i>Calamagrostis canadensis</i> var. Ma-		<i>Capsella Bursa-pastoris</i>	548
<i>couniana</i>	465	Caraway	610
<i>canadensis</i> var. <i>typica</i>	465	Cardamine <i>arenicola</i>	551
<i>inexpansa</i>	465	<i>bulbosa</i>	551
<i>inexpansa</i> var. <i>brevior</i>	465	<i>Douglasii</i>	551
<i>Macouniana</i>	465	<i>parviflora</i>	551
Calamint	634	<i>parviflora</i> var. <i>arenicola</i>	551
<i>Calamovilfa longifolia</i>	465	<i>pennsylvanica</i>	551
Callirhoe alcaeoides	599	Cardinal Flower	653
<i>Bushii</i>	599	Cardiospermum Halicacabum	594
<i>digitata</i>	599	Carduus crispus	678
<i>involuta</i>	598	Carex aggregata	488
Papaver	598	<i>albicans</i>	490
<i>triangulata</i>	598	<i>albursina</i>	491
CALLITRICHACEAE	590	<i>amphibola</i>	491
<i>Callitricha deflexa</i> var. <i>Austini</i>	590	<i>anceps</i>	491
<i>heterophylla</i>	590	<i>annectens</i>	488
<i>Calopogon pulchellus</i>	509	<i>annectens</i> var. <i>zanthocarpa</i>	488
Caltrop	586	<i>arkansana</i>	487
<i>Calycocearpum Lyoni</i>	544	<i>artiteeta</i>	490
<i>Camelina microcarpa</i>	548	<i>Asa-Grayi</i>	494
<i>sativa</i>	548	<i>atherodes</i>	493
<i>Camassia esculenta</i>	502	<i>austrina</i>	487
<i>hyacinthina</i>	502	<i>Bicknellii</i>	489
<i>Campanula americana</i>	653	<i>blanda</i>	491
<i>rapunculoides</i>	653	<i>brachyglossa</i>	488
<i>rotundifolia</i>	653	<i>brevior</i>	489
CAMPANULACEAE	653	<i>Bushii</i>	492
Campion		<i>Buxbaumii</i>	493
<i>Bladder</i>	536	<i>camporum</i>	487
<i>Red</i>	536	<i>Careyana</i>	490
<i>Starry</i>	537	<i>caroliniana</i>	492
<i>White</i>	536	<i>cephaloidea</i>	488
<i>Campsis radicans</i>	645	<i>cephalophora</i>	487
Canary Grass	471	<i>eherokeensis</i>	492
Cancer-root	639	<i>colorata</i>	490
<i>Small</i>	645	<i>comosa</i>	494
Cancer-weed	633	<i>complanata</i>	492
Cancerwort	639	<i>conjuncta</i>	488

Page	Page
convoluta	487
Crawei	491
erinita	493
erinita var. gynandra	493
cristata	489
cristatella	489
erus-corvi	488
Davisii	492
decomposita	488
digitalis	490
eburnea	490
Emmonsii	490
Emoryi	493
festucacea	489
festucacea var. brevior	489
flaccosperma	492
Frankii	494
gigantea	495
glaucodea	492
gracillima	492
granularis	491
granularia var. Haleana	491
gravida	487
gravida var. laxifolia	487
Grayii var. hispidula	494
grisea	491
grisea var. angustifolia	491
grisea var. globosa	492
grisea var. rigida	491
gynandra	493
Halei	494
Haydeni	493
heliotropha	490
hirsutella	492
hirtifolia	490
Hitchcockiana	491
hormathodes	489
hyalinolepis	493
hystricina	494
impressa	493
interior	488
intumescens	494
Jamesii	489
Joorii	492
lacustris	493
laeviconica	493
laevivaginata	488
lanuginosa	493
laxiculmis	491
laxiculmis var. copulata	491
laxiflora	491
laxiflora var. blanda	491
laxiflora var. gracillima	491
laxiflora var. latifolia	491
laxiflora var. patulifolia	491
laxiflora var. varians	491
Leavenworthii	487
leptalea	492
louisianica	494
Lunelliana	487
lupuliformis	494
lupulina	494
lupulina var. pedunculata	494
lurida	494
lurida var. flaccidea	494
macrokolea	492
Meadii	490
mesochorea	487
microrhyncha	490
mirabilis	489
mirabilis var. perlonga	489
molesta	489
monile	494
Muhlenbergii	487
Muhlenbergii var. enervis	487
muskingumensis	489
nigro-marginata	490
normalis	489
oklahomensis	488
oligocarpa	491
oxylepis	492
pennsylvanica of auth. in part	490
pennsylvanica var. digyna	490
physorhyncha	490
plana	487
praegracilis	487
projecta	490
pubescens	490
retroflexa	487
retroflexa var. texensis	487
riparia	493
riparia var. impressa	493
riparia var. lacustris	493
rosea	487

Page	Page		
roses of auth.	487	Carpinus caroliniana	517
rosea var. <i>minor</i>	487	Carrión-flower	505
Sartwellii	487	Carrot	612
scabrata	493	Carum Carvi	610
Schweinitzii	494	Carya <i>alba</i>	515
<i>scirpoidea</i>	488	<i>alba</i> var. <i>ficoidea</i>	515
scoparia	489	<i>alba</i> var. <i>ovoidea</i>	515
scoparia var. <i>moniliformis</i>	489	<i>alba</i> var. <i>subcoreacea</i>	515
setacea var. <i>ambigua</i>	488	aquatica	514
Shortiana	492	Buckleyi var. <i>arkansana</i>	515
Shriveri	491	Buckleyi var. <i>villosa</i>	515
siccata	487	cordiformis	514
sparganioides	488	cordiformis var. <i>latifolia</i>	514
squarrosa	494	glabra	515
stipata	488	<i>glabra</i> var. <i>villosa</i>	515
straminea	489	<i>illinoensis</i>	514
straminea of Am. auth.	489	laciniosa	514
stricta	493	<i>microcarpa</i>	516
stricta var. <i>angustata</i>	493	ovalis	515
stricta var. <i>decora</i>	493	ovalis var. <i>obcordata</i>	516
tenera	489	ovalis var. <i>obcordata</i> f. <i>vestita</i> ..	516
tetanica	490	ovalis var. <i>obovalis</i>	515
tetonica var. <i>Meadii</i>	490	ovalis var. <i>odorata</i>	516
tetonica var. <i>Woodii</i>	490	ovata	514
texensis	487	ovata var. <i>ellipsoidalis</i>	514
torta	493	Pecan	514
triangularis	488	tomentosa	515
tribuloides	489	<i>tomentosa</i> f. <i>ficoidea</i>	515
tribuloides var. <i>sangamonensis</i> ..	489	<i>tomentosa</i> f. <i>ovoidea</i>	515
triceps var. <i>hirensis</i>	492	<i>tomentosa</i> var. <i>subcoreacea</i>	515
triceps var. <i>Smithii</i>	492	CARYOPHYLLACEAE	534
trichocarpa	493	Cassia <i>Chamaecrista</i> of auth.	574
trichocarpa var. <i>aristata</i>	493	<i>Chamaecrista</i> var. <i>robusta</i>	574
trichocarpa var. <i>Deweyi</i>	493	<i>depressa</i>	574
trichocarpa var. <i>imberbis</i>	493	<i>fasciculata</i>	574
typhina	494	<i>fasciculata</i> var. <i>depressa</i>	574
typhinoidea	494	<i>fasciculata</i> f. <i>Jensenii</i>	574
umbellata	490	<i>fasciculata</i> var. <i>robusta</i>	574
varia	490	marilandica	574
varia var. <i>colorata</i>	490	Medsgeri	574
vesicaria	494	nictitans	575
vesicaria var. <i>monile</i>	494	occidentalis	574
virescens	492	Tora	574
vulpinoides	488	Castalia <i>odorata</i>	538
zanthocarpa var. <i>annectens</i>	488	<i>tuberosa</i>	538
Woodii	490	Castanea <i>ozarkensis</i>	517
Carpet-weed	534	<i>pumila</i> of auth. in part	517

	Page		Page
<i>Castilleja coccinea</i>	644	<i>soltitialis</i>	679
<i>coccinea</i> f. <i>lutescens</i>	644	<i>vochinensis</i>	679
<i>purpurea</i>	644	<i>Centaurium calycosum</i>	619
<i>sessiliflora</i>	644	<i>texense</i>	619
<i>Castor-oil Plant</i>	589	<i>Centaurium</i>	619
<i>Catalpa</i>	645	<i>Centunculus minimus</i>	616
<i>bignonioides</i>	645	<i>Cephalanthus occidentalis</i>	649
<i>speciosa</i>	645	<i>occidentalis</i> var. <i>pubescens</i>	649
<i>Cat-brier</i>	506	<i>Cerastium arvense</i> var. <i>oblongi-</i>	
<i>Catchfly</i>		<i>folium</i>	536
<i>Night-flowering</i>	536	<i>brachypodium</i>	535
<i>Royal</i>	537	<i>nutans</i>	535
<i>Sleepy</i>	536	<i>viscosum</i>	536
<i>Catch-fly Grass</i>	471	<i>vulgatum</i> of auth.	535
<i>Catnip</i>	632	<i>vulgatum</i> var. <i>hirsutum</i>	535
<i>Cat-tail</i>		CERATOPHYLLACEAE	538
<i>Common</i>	454	<i>Ceratophyllum demersum</i>	538
<i>Narrow-leaved</i>	454	<i>Cercis canadensis</i>	375
<i>Caulophyllum thalictroides</i>	544	<i>Chaerophyllum procumbens</i>	609
<i>Cayponia grandifolia</i>	652	<i>procumbens</i> var. <i>Shortii</i>	609
<i>Ceanothus americanus</i>	595	<i>Shortii</i>	609
<i>ovatus</i>	595	<i>Tainturieri</i> var. <i>floridanum</i>	610
<i>ovatus</i> var. <i>pubescens</i>	595	<i>texanum</i>	609
<i>Cedar</i>		<i>Chaffweed</i>	616
<i>Red</i>	454	<i>Chamaecrista depressa</i>	574
<i>White</i>	454	<i>fasciculata</i>	574
<i>Celandine</i>	545	<i>Chaetopappa asteroides</i>	661
CELASTRACEAE	592	<i>Chamomile</i>	
<i>Celastrus scandens</i>	592	<i>Corn</i>	676
<i>Celtis georgiana</i>	523	<i>Yellow</i>	676
<i>laevigata</i>	522	<i>Wild</i>	676
<i>laevigata</i> var. <i>texana</i>	522	<i>Charlock</i>	548
<i>mississippiensis</i>	522	<i>Cheat</i>	458
<i>occidentalis</i>	522	<i>Cheeses</i>	598
<i>occidentalis</i> var. <i>canina</i>	522	<i>Chelidonium majus</i>	545
<i>occidentalis</i> var. <i>crassifolia</i>	522	<i>Chelone glabra</i>	640
<i>pumila</i>	523	<i>obliqua</i> var. <i>speciosa</i>	640
<i>pumila</i> var. <i>Deamii</i>	523	CHENOPODIACEAE	528
<i>pumila</i> var. <i>georgiana</i>	523	<i>Chenopodium album</i>	529
<i>Cenchrus carolinianus</i>	478	<i>album</i> of auth.	529
<i>panciflorus</i>	478	<i>album</i> f. <i>lanceolatum</i>	529
<i>Centaurea americana</i>	679	<i>album</i> f. <i>viride</i>	529
<i>Cyanus</i> *	679	<i>album</i> var. <i>viride</i>	529
<i>maculosa</i>	679	<i>ambrosioides</i>	529
<i>melitensis</i>	679	<i>ambrosioides</i> var. <i>anthelminticum</i>	529
<i>pieris</i>	679	<i>Berlandieri</i>	530

Page		Page	
Berlandieri subsp. <i>Boscianum</i> ..	530	Chervil	
Berlandieri subsp. <i>Zschackei</i> var.		Hemlock	612
<i>farinosum</i>	530	Wild	609
Berlandieri subsp. <i>Zschackei</i> var.		Chess	458
<i>foetens</i>	530	Field	459
Berlandieri subsp. <i>Zschackei</i> var.		Soft	458
<i>typicum f. angustius</i>	530	Wild	458
Berlandieri subsp. <i>Zschackei</i> var.		Chickweed	535
<i>typicum f. latifolium</i>	530	Clammy	536
Berlandieri subsp. <i>Zschackei</i> var.		Forked	534
<i>typicum f. neglectum</i>	530	Great	535
Berlandieri subsp. <i>Zschackei</i> var.		Nodding	535
<i>typicum f. pedunculare</i>	530	Chicory	680
<i>Boscianum</i>	530	Chinquapin	517
<i>Botrys</i>	529	Water	538
<i>Bushianum</i>	530	<i>Chionanthus virginica</i>	618
<i>capitatum</i>	529	<i>Chittim-wood</i>	616
<i>carinatum</i>	529	<i>Chloris elegans</i>	471
<i>dactotium</i>	531	<i>verticillata</i>	471
<i>gigantospermum</i>	529	<i>virgata</i>	471
<i>gigantospermum</i> var. <i>Standley-</i>		<i>Christmas Holly</i>	592
<i>anum</i>	529	<i>Chrosperma muscaetoxicum</i>	500
<i>glaucephyllum</i>	530	<i>Chrysanthemum Leucanthemum</i> ..	676
<i>glaeum</i>	529	<i>pinnatifidum</i>	676
<i>hybridum</i> of Am. auth.	529	<i>Chrysopsis Berlandieri</i>	658
<i>inecanum</i>	531	<i>camporum</i>	658
<i>leptophyllum</i>	531	<i>pilosa</i>	658
<i>leptophyllum</i>	531	<i>villosa</i> of auth.	658
<i>leptophyllum</i> var. <i>leptophylloides</i>	531	<i>villosa</i> var. <i>cognescens</i>	658
<i>leptophyllum</i> var. <i>oblongifolium</i> .	531	<i>Cichorium Intybus</i>	680
<i>missouriense</i>	530	<i>Centa maculata</i>	610
<i>missouriense</i> var. <i>Bushianum</i> ..	530	<i>Cigar Tree</i>	645
<i>murale</i>	531	<i>Cimicifuga racemosa</i>	543
<i>paganum</i>	529	<i>Cinna arundinacea</i>	466
<i>paganum</i>	530	<i>Cinquefoil</i>	566
<i>pratericola</i>	530	<i>Circaea latifolia</i>	608
<i>Standleyanum</i>	530	<i>lutetiana</i> of Am. auth.	608
<i>urbileum</i>	531	<i>Cirsium altissimum</i>	679
<i>urbileum</i> var. <i>intermedium</i>	531	<i>arvense</i>	679
<i>x variabile</i> var. <i>Murrii</i>	531	<i>discolor</i>	678
Cherry		<i>Hilli</i>	678
<i>Choke</i>	572	<i>towense</i>	679
<i>Ground</i>	637, 638	<i>lanceolatum</i>	678
<i>Indian</i>	595	<i>muticum</i>	679
<i>Perfumed</i>	573	<i>ochrocentrum</i> var. <i>Helleri</i>	679
<i>Sour</i>	573	<i>odoratum</i>	678
<i>Wild</i>	572	<i>pumilum</i>	678

Page	Page		
undulatum var. <i>megacephalum</i>	678	Yellow Hop	576
<i>virginianum</i>	679	Yellow Sweet	576
<i>Cissus Ampelopsis</i>	596	Club-rush, Hedgehog	482
<i>arborea</i>	596	<i>Coeculus carolinus</i>	544
<i>incisa</i>	596	Cocklebur	668
<i>CISTACEAE</i>	601	Cocks-pur Thorn	557
<i>Citrullus vulgaris</i>	653	Coco Grass	480
<i>Cladothrix lanuginosa</i>	533	<i>Coelorrhiza cylindrica</i>	480
<i>Cladraspis lutea</i>	575	Coffee-tree, Kentucky	573
Clammy Hedge Hyssop	641	Coffee Weed	574
Clammy-weed	552	<i>Cogswellia daucifolia</i>	611
<i>Claytonia multicaulis</i> var. <i>robusta</i>	537	Cohosh, Blue	544
<i>robusta</i>	537	<i>Collomia verna</i>	639
<i>virginica</i>	537	<i>violacea</i>	639
<i>virginica f. robusta</i>	537	<i>Collomonia canadensis</i>	636
Clear-eye	633	<i>Collomia linearis</i>	626
Clearweed	524	Columbine, Wild	542
Cleavers	648	Columbo, American	619
<i>Clematis crispa</i>	542	Comandra Richardsiana	524
<i>Fremontii</i>	542	<i>umbellata</i>	524
<i>missouriensis</i>	542	Comfrey	628
<i>Pitcheri</i>	542	Commelina caroliniana	497
<i>versicolor</i>	542	<i>communis</i>	496
<i>Viorna</i>	542	<i>crispa</i>	497
<i>virginiana</i>	542	<i>erecta</i>	497
<i>virginiana var. missouriensis</i>	542	<i>erecta</i> var. <i>crispa</i>	497
<i>Cleome serrulata</i>	552	<i>hirtella</i> of auth.	497
<i>spinosa</i>	552	<i>longicaulis</i>	497
<i>Clitoria mariana</i>	584	<i>nudiflora</i>	497
Clover		<i>virginica</i>	497
Aisike	576	<i>virginica</i> of auth.	497
Buffalo	575	<i>COMMELINACEAE</i>	496
Running	576	Compass Plant	666
Bur	576	<i>COMPOSITAE</i>	654
Bush	581	Cone-flower, Purple	670
Hairy	582	<i>Conioselinum chinense</i>	612
Corean	582	<i>Conium maculatum</i>	610
Crimson	575	<i>Conobea multifida</i>	641
Japanese	582	<i>Conringia orientalis</i>	549
Little Hop	576	<i>CONVOLVULACEAE</i>	623
Low Hop	576	<i>Convolvulus arvensis</i>	624
Prairie	577	<i>arvensis</i> var. <i>obtusifolius</i>	624
White	578	<i>japonicus</i>	624
Rabbit-foot	575	<i>sepium</i>	624
Red	575	<i>sepium</i> var. <i>fraterniflorus</i>	624
White	576	<i>sepium</i> var. <i>pubescens</i>	624
Sweet	576	<i>sphagneticola</i>	623

	Page		Page
Coral-root	510	<i>flavula</i>	546
Crested	511	<i>micrantha</i>	546
Small	510	<i>montanum</i>	547
Yellow	510	<i>Corylus americana</i>	516
Corallorrhiza odontorhiza	510	<i>americana</i> var. <i>indehiscens</i>	516
<i>trifida</i>	510	<i>americana</i> f. <i>missouriensis</i>	516
<i>Wisteriana</i>	510	<i>cornuta</i>	516
Coreopsis <i>crassifolia</i>	673	<i>rostrata</i>	516
<i>grandiflora</i>	673	<i>Cotinus americanus</i>	591
<i>lanceolata</i>	673	<i>Cottonwood</i>	513
<i>lanceolata</i> var. <i>villosa</i>	673	<i>Swamp</i>	513
<i>palmata</i>	673	<i>Couch Grass</i>	462
<i>pubescens</i>	673	<i>Cow Parsnip</i>	612
<i>tinctoria</i>	672	<i>Cowbane</i>	610, 612
<i>tripteris</i>	673	<i>Cow-herb</i>	537
<i>tripteris</i> var. <i>Deamii</i>	673	<i>Cowslip, Virginia</i>	628
Coriander	611	<i>Crab, American</i>	557
Coriandrum sativum	611	<i>Crab-apple, Wild</i>	556
Corispermum <i>hyssopifolium</i>	532	<i>Cranesbill</i>	586
<i>nitidum</i>	531	CRASSULACEAE	552
<i>orientale</i> var. <i>emarginatum</i>	532	<i>Crataegus acutifolia</i>	558
Cork Wood	513	<i>albanthera</i>	557
Corn, Indian	480	<i>angulata</i>	562
Corn Cockle	536	<i>angustata</i>	560
<i>Gromwell</i>	628	<i>aperta</i>	562
<i>Salad, Beaked</i>	652	<i>apiifolia</i>	564
<i>Spurrey</i>	534	<i>apiifolia</i> var. <i>flavanthera</i>	564
CORNACEAE	612	<i>arborea</i>	559
<i>Coronus alternifolia</i>	613	<i>arborescens</i>	560
<i>Amomum</i> of auth.	613	<i>arcana</i>	562
<i>asperifolia</i>	613	<i>aspera</i>	563
<i>femina</i>	613	<i>atrorubens</i>	561
<i>femina</i> of auth.	613	<i>barbata</i>	559
<i>florida</i>	612	<i>barrettiana</i>	558
<i>florida</i> f. <i>rubra</i>	612	<i>bellicia</i>	558
<i>florida</i> var. <i>rubra</i>	612	<i>biltmoreana</i>	561
<i>obliqua</i>	613	<i>brachypoda</i>	562
<i>paniculata</i>	613	<i>bracteata</i>	562
<i>Purpurea</i>	613	<i>calliantha</i>	562
<i>racemosa</i>	613	<i>callicarpa</i>	564
<i>stricta</i>	613	<i>calophylla</i>	557
<i>Coronilla varia</i>	579	<i>calpodendron</i>	564
<i>Coronopus didymus</i>	548	<i>calpodendron</i> var. <i>hispidula</i>	564
<i>Corydalis aurea</i>	547	<i>calpodendron</i> var. <i>obesa</i>	564
<i>aurea</i> var. <i>occidentalis</i>	547	<i>campestris</i>	565
<i>campestris</i>	546	<i>candens</i>	557
<i>crystallina</i>	546	<i>coccinioides</i>	564

	Page		Page
<i>collina</i>	560	<i>incaedua</i>	565
<i>collina</i> var. <i>secta</i>	560	<i>infesta</i>	559
<i>collina</i> var. <i>sordida</i>	560	<i>insperata</i>	564
<i>collina</i> var. <i>succincta</i>	560	<i>intermixta</i>	558
<i>collina</i> × <i>viridis</i>	565	<i>jasperensis</i>	558
<i>conjuncta</i>	562	<i>Kelloggii</i>	563
<i>consueta</i>	557	<i>lanceolata</i>	561
<i>cordata</i>	564	<i>lanigera</i>	563
<i>crus-galli</i>	557	<i>lanuginosa</i>	563
<i>crus-galli</i> var. <i>barrettiana</i>	558	<i>larga</i>	560
<i>crus-galli</i> var. <i>bellica</i>	558	<i>lasiantha</i>	563
<i>crus-galli</i> var. <i>exigua</i>	557	<i>latebrosa</i>	560
<i>crus-galli</i> var. <i>leptophylla</i>	558	<i>lawrencensis</i>	558
<i>crus-galli</i> var. <i>macra</i>	557	<i>leioclada</i>	561
<i>crus-galli</i> var. <i>pachyphylla</i>	558	<i>leptophylla</i>	558
<i>crus-galli</i> f. <i>truncata</i>	557	<i>Lettermanii</i>	560
<i>Danielii</i>	559	<i>locuples</i>	563
<i>Danielii</i> f. <i>glabra</i>	559	<i>ludovicensis</i>	558
<i>dasyphylla</i>	563	<i>lutensis</i>	561
<i>Davisii</i>	560	<i>Mackenzii</i>	562
<i>Dawsoniana</i>	561	<i>Mackenzii</i> var. <i>bracteata</i>	562
<i>declivitatis</i>	564	<i>macra</i>	557
<i>depressa</i>	562	<i>macracantha</i> var. <i>neofluvialis</i>	565
<i>discolor</i>	558	<i>macrophylla</i>	563
<i>disjuncta</i>	562	<i>macropoda</i>	560
<i>disjuncta</i> var. <i>magnifolia</i>	562	<i>magnifolia</i>	562
<i>dispessa</i>	563	<i>Margareta</i>	561
<i>dumetosa</i>	563	<i>Marshallii</i>	564
<i>efferta</i>	557	<i>missouriensis</i>	565
<i>effulgens</i>	557	<i>mollicula</i>	564
<i>Engelmannii</i>	559	<i>mollis</i>	563
<i>Engelmannii</i> f. <i>nuda</i>	559	<i>mollis</i> f. <i>dumetosa</i>	563
<i>Engelmannii</i> × <i>uniflora</i>	565	<i>monosperma</i>	557
<i>ensifera</i>	565	<i>munita</i>	559
<i>erecta</i>	558	<i>neobushii</i>	561
<i>exigua</i>	557	<i>neofluvialis</i>	565
<i>fecunda</i>	559	<i>nitens</i>	561
<i>ferox</i>	557	<i>nitida</i>	561
<i>furcata</i>	560	<i>noelensis</i>	563
<i>Gattingeri</i>	562	<i>nuda</i>	565
<i>glabrifolia</i>	561	<i>obesa</i>	564
<i>globosa</i>	564	<i>obscura</i>	564
<i>hamata</i>	557	<i>onusta</i>	562
<i>hannibalensis</i>	559	<i>ovata</i>	561
<i>hirtella</i>	559	<i>pachyphylla</i>	558
<i>hirtiflora</i>	560	<i>padifolia</i>	561
<i>hispidula</i>	564	<i>padifolia</i> var. <i>im carnata</i>	561

	Page		Page
<i>Palmeri</i>	558	<i>tantula</i>	558
<i>paradoxa</i>	559	<i>tardiflora</i>	557
<i>parciflora</i>	558	<i>tenuis</i>	559
<i>Parkae</i>	557	<i>tenuisepala</i>	558
<i>patrum</i>	562	<i>tenuispina</i>	559
<i>Pechiana</i>	560	<i>tomentosa</i>	564
<i>permara</i>	557	<i>transmississippiensis</i>	563
<i>pertomentosa</i>	565	<i>Treleasei</i>	563
<i>Phaenopyrum</i>	564	<i>trianthophora</i>	564
<i>phaneroneura</i>	559	<i>truncata</i>	557
<i>pilifera</i>	559	<i>tumida</i>	562
<i>platycarpa</i>	563	<i>umbrosa</i>	563
<i>polyolada</i>	557	<i>uniflora</i>	564
<i>pruinosa</i>	562	<i>Vailiae</i>	565
<i>pruinosa f. angulata</i>	562	<i>valens</i>	563
<i>pruinosa</i> var. <i>brachypoda</i>	562	<i>vallicola</i>	559
<i>pudens</i>	565	<i>verna</i>	563
<i>pyracanthoides</i> var. <i>arborea</i>	559	<i>verruculosa</i>	560
<i>pyriformis</i>	563	<i>vicina</i>	560
<i>regalis</i>	559	<i>villicarpa</i>	561
<i>regalis</i> var. <i>paradoxa</i>	559	<i>villiflora</i>	559
<i>rigida</i>	562	<i>viridis</i>	560
<i>rotunda</i>	558	<i>viridis</i> var. <i>atrorubens</i>	561
<i>rubicundula</i>	562	<i>viridis</i> var. <i>lanceolata</i>	561
<i>rubrifolia</i>	558	<i>viridis</i> var. <i>lutensis</i>	561
<i>rubrisepala</i>	558	<i>viridis</i> var. <i>ovata</i>	561
<i>rudis</i>	557	<i>Crepis capillaris</i>	681
<i>rugosa</i>	562	<i>setosa</i>	681
<i>secluca</i>	562	Cress	
<i>secta</i>	560	Lake	550
<i>seducta</i>	562	Marah Water	550
<i>setosa</i>	559	Mouse-ear	549
<i>severa</i>	557	Penny	547
<i>sicea</i>	561	Rock	551
<i>simulata</i>	565	Spring	551
<i>sordida</i>	560	Water	550
<i>sordida</i> var. <i>villosa</i>	560	Winter	550
<i>spathulata</i>	564	Yellow	550
<i>spathulata</i> var. <i>flavanthera</i>	564	<i>Crocanthemum majus</i>	601
<i>speciosa</i>	564	<i>Cross-vine</i>	645
<i>spinulosa</i>	564	<i>Crosswort</i>	616
<i>strongylophylla</i>	557	<i>Crotalaria sagittalis</i>	575
<i>succincta</i>	560	<i>Croton capitatus</i>	588
<i>succida</i>	560	<i>Engelmanni</i>	588
<i>sueculta</i>	565	<i>glandulosus</i> var. <i>septentrionalis</i>	588
<i>sueculta</i> var. <i>pertomentosa</i>	565	<i>monanthogynus</i>	588
<i>swenae</i>	565	<i>texensis</i>	588

Page		Page	
Crotonopsis elliptica	588	Cynoglossum officinale	627
linearis	588	virginianum	627
linearis of auth.	588	Cynocephalum digitatum	611
Crowfoot		pinnatum	611
Cursed	539	Cynthia virginica	680
Hooked	540	CYPERACEAE	480
Seaside	539	Cyperus acuminatus	481
Small-flowered	540	aristatus	480
White Water	539	Bushii	482
Yellow Water	539	compressus	480
Crown-beard, Wild	672	diandrus	480
CRUCIFERAE	547	dipsaciformis	482
Cryptotaenia canadensis	610	echinatus	482
Cucumber, One-seeded Bur	652	Engelmanni	481
Cucumber-root, Indian	503	erythrorhizos	481
Cucumber Tree	544	erythrorhizos var. pumilus	481
Cucumber Vine, Wild	653	esculentus	481
Cucumis Melo	653	esculentus var. angustispicatus	481
sativus	653	esculentus var. longispicatus	481
Cucurbita foetidissima	652	ferax	481
Pepo	653	feraz of auth.	481
CUCURBITACEAE	652	ferruginescens	481
Cudweed	666	filiculmis	482
Culver's-root	641	filiculmis var. macilentus	482
Cunila origanoides	635	flavescens	480
Cup Plant	667	Gatesii	480
Cup-seed	544	globulosus	482
Cuphea petiolata	605	Halei	481
Currant		Hallii	481
Flowering	555	infexus	480
Indian	650	laneastriensis	482
Cuscuta arvensis	624	ovularis	482
Cephalanthi	624	ovularis var. robustus	482
compacta	625	pseudovegetus	481
Coryli	624	refractus	482
eupidata	624	retrofractus	482
glomerata	624	retrofractus of auth.	482
Gronovii of auth.	624	rivularis	480
Gronovii var. vulgivaga	624	Schweinitzii	481
obtusifolia	624	speciosus	481
pentagona	624	strigosus	481
pentagona var. calycina	624	strigosus var. capitatus	481
Polygonorum	624	strigosus var. compositus	481
Cycloloma atriplicefolium	528	strigosus var. elongatus	481
Cymbia occidentalis	680	strigosus var. robustior	481
Cynodon Daetylon	470	Cypress	
		Bald	454

	Page		Page
Standing	529, 626	Treleasei	543
Summer	528	tricornis	543
Cypress Vine	623	Dentaria laciniata	551
<i>Cypripedium candidum</i>	508	<i>laciniata</i> var. <i>integra</i>	551
<i>hirsutum</i>	508	Descurainia canescens	549
<i>parviflorum</i>	508	<i>incisa</i>	549
<i>parviflorum</i> var. <i>pubescens</i>	508	<i>intermedia</i>	549
<i>Reginae</i>	508	Sophia	549
D			
<i>Dactylis glomerata</i>	462	Desmanthus illinoensis	573
Daisy		<i>leptolobus</i>	573
<i>Michaelmas</i>	665	Desmodium acuminatum	579
Ox-eye	676	<i>bracteosum</i>	580
Purple	662	<i>bracteosum</i> var. <i>longifolium</i>	580
Western	661	<i>canadense</i>	581
<i>Dalea alopecuroides</i>	577	<i>canadense</i> × <i>Dillenii</i>	581
<i>enneandra</i>	577	<i>canescens</i>	580
Dandelion	680	<i>canescens</i> var. <i>hirsutum</i>	580
Dwarf	680	<i>Dillenii</i>	580
False	682	<i>grandiflorum</i>	579
Red-seeded	680	<i>illinoense</i>	580
<i>Danthonia spicata</i>	465	<i>laevigatum</i>	580
Darnel	464	<i>marilandicum</i>	581
<i>Dasisoma macrophylla</i>	642	<i>nudiflorum</i>	579
<i>Dasytoma calycosa</i>	643	<i>obtusum</i>	581
<i>flava</i>	643	<i>ochroleucum</i>	580
<i>pectinata</i>	643	<i>paniculatum</i>	580
<i>serrata</i>	642	<i>paniculatum</i> var. <i>angustifolium</i>	580
<i>Datura Metel</i>	638	<i>paniculatum</i> var. <i>pubens</i>	580
<i>Stramonium</i>	638	<i>pauciflorum</i>	579
<i>Tatula</i>	638	<i>rigidum</i>	581
<i>Daucus Carota</i>	612	<i>rotundifolium</i>	580
<i>pusillus</i>	612	<i>sessilifolium</i>	580
Day-flower	497	<i>viridiflorum</i>	580
Creeping	496	Devil's-claws	646
Day Lily	502	Dewberry	568
Deer-grass	605	Dianthera americana	646
Deerberry	614	<i>ovata</i>	646
<i>Delphinium Ajacis</i>	543	Dianthus Armeria	536
<i>azureum</i>	543	<i>barbatus</i>	536
<i>azureum</i> var. <i>Nortonianum</i>	543	<i>deltoides</i>	536
<i>comporum</i>	543	<i>Diapodium brachiatum</i>	646
<i>Nortonianum</i>	543	<i>Diarima festucoides</i>	461
Penardi	543	<i>Diarrhena americana</i>	461
		<i>diantha</i>	461
		<i>Dicentra canadensis</i>	546
		<i>Cuecularia</i>	546

Page	Page		
Dicliptera brachiata	646	Dodecatheon Meadia	616
<i>Didiplis diandra</i>	604	Dogbane	620
Digitaria filiformis	472	Pink-flowered	620
<i>filiformis</i> var. <i>villosa</i>	472	Dog Fennel	676
<i>humifusa</i>	472	Yellow	675
Ischaemum	472	Dogwood	
<i>sanguinalis</i>	472	Alternate-leaved	612
<i>sanguinalis</i> var. <i>marginata</i>	472	Flowering	612
<i>villosa</i>	472	Gray	612
Dill	612	Rough-leaved	612
Diodia teres	648	Stiff	612
<i>virginiana</i>	648	Swamp	612
Dioscorea glauca	506	<i>Dolicholus latifolius</i>	585
<i>quaternata</i>	506	<i>tomentosus</i>	585
<i>villosa</i>	506	<i>Draba brachycarpa</i>	547
<i>villosa</i> var. <i>glabrifolia</i>	506	<i>caroliniana</i>	547
DIOSCOREACEAE	506	<i>caroliniana</i> var. <i>micrantha</i>	547
<i>Diospyros pubescens</i>	617	<i>cuneifolia</i>	547
<i>virginiana</i>	616	<i>reptans</i>	547
<i>virginiana</i> var. <i>platyarpa</i>	617	<i>reptans</i> var. <i>micrantha</i>	547
<i>virginiana</i> var. <i>pubescens</i>	617	<i>verna</i>	547
<i>virginiana</i> f. <i>pumila</i>	616	<i>Dracocephalum parviflorum</i>	632
Diplachne acuminata	470	Dragon Head	632
<i>fascicularis</i>	470	False	632
DIPSACACEAE	652	Dropseed Grass	467, 468
<i>Dipsacus sylvestris</i>	652	Duchesnea indica	566
Dirca palustris	604	Duckweed	495
Distichlis striata	461	Ivy-leaved	495
Ditch Stonecrop	552	Little	495
Ditch-grass	456	<i>Dulichium arundinaceum</i>	482
Dittany	635	Dutchman's Breeches	546
Doek		Pipe	525
Bitter	525	<i>Dyssodia papposa</i>	675
Broad-leaved	525		
Curled	525	E	
Great Water	525	EUBENACEAE	616
Narrow-leaved	525	<i>Echinacea angustifolia</i>	670
Pale	525	<i>pallida</i>	670
Patience	525	<i>paradoxa</i>	670
Prairie	667	<i>purpurea</i>	670
Sour	526	<i>Echinochloa colonum</i>	478
Spatter	533	<i>erус-galli</i>	477
Swamp	525	<i>erус-galli</i> f. <i>longiseta</i>	477
Dodder		<i>microstachya</i>	477
Field	624	<i>muricata</i>	477
Hazel	624	<i>muricata</i> var. <i>ludoviciana</i>	478
Smartweed	624		

	Page		Page
<i>muricata</i> var. <i>microstachya</i>	478	Red	522
<i>occidentalis</i>	477	Rock	522
<i>pungens</i>	477	Slippery	522
<i>pungens</i> var. <i>ludoviciana</i>	478	Water	522
<i>pungens</i> var. <i>microstachya</i>	478	White	522
<i>pungens</i> var. <i>occidentalis</i>	477	Winged	522
<i>Echinocystis lobata</i>	653	<i>Elodea canadensis</i> of auth.	457
<i>Echinodorus cordifolius</i>	457	<i>Eleusine indica</i>	470
<i>cordifolius</i> var. <i>lanceolatus</i>	457	<i>Elymus arkansanus</i>	463
<i>radicans</i>	457	<i>australis</i>	464
<i>tenellus</i>	457	<i>australis</i> var. <i>glabriiflorus</i>	464
<i>Echium vulgare</i>	629	<i>canadensis</i>	463
<i>Eclipta alba</i>	669	<i>canadensis</i> f. <i>glaucifolius</i>	463
Eel-grass	457	<i>glabriiflorus</i>	464
<i>Eichhornia crassipes</i>	497	<i>glaucifolius</i>	463
ELAEAGNACEAE	604	<i>glaucifolius</i> var. <i>crescendus</i>	463
<i>Elaeagnus angustifolia</i>	604	<i>glaucifolius</i> var. <i>robustus</i>	463
<i>Elatine americana</i>	600	<i>glauca</i>	463
ELATINACEAE	600	<i>hirsutiglumis</i>	463
Elder, Marsh	667	<i>jejunus</i>	463
Elderberry	652	<i>Macounii</i>	463
Red	652	<i>Mackenzii</i>	463
Elecampane	666	<i>robustus</i>	463
Elephant's foot	655	<i>robustus</i> var. <i>vestitus</i>	463
<i>Eleocharis acicularis</i> var. <i>gracilescens</i>	483	<i>striatus</i>	463
<i>acicularis</i> var. <i>typica</i>	483	<i>striatus</i> var. <i>arkansanus</i>	463
<i>acuminata</i>	483	<i>villosum</i>	463
<i>calva</i>	483	<i>villosum</i> f. <i>arkansanus</i>	463
<i>capitata</i> var. <i>verrucosa</i>	483	<i>virginicus</i>	463
<i>compressa</i>	483	<i>virginicus</i> var. <i>glabriiflorus</i>	464
<i>Engelmanni</i>	483	<i>virginicus</i> var. <i>glabriiflorus</i> f. <i>australis</i>	464
<i>Engelmanni</i> var. <i>robusta</i>	483	<i>virginicus</i> f. <i>hirsutiglumis</i>	463
<i>lanceolata</i>	483	<i>virginicus</i> var. <i>hirsutiglumis</i>	463
<i>macrostachya</i>	483	<i>virginicus</i> var. <i>jejunus</i>	463
<i>mammillata</i>	483	<i>virginicus</i> var. <i>submuticus</i>	464
<i>obtusa</i>	482	Empress Tree	640
<i>palustris</i> var. <i>glaucescens</i>	483	Enchanter's Nightshade	608
<i>parvula</i>	483	<i>Engelmannia pinnatifida</i>	667
<i>quadrangulata</i>	482	<i>Epifagus virginiana</i>	645
<i>Smallii</i>	483	<i>Epilobium densum</i>	606
<i>tenuis</i>	483	<i>coloratum</i>	606
<i>Elephantopus carolinianus</i>	655	<i>Epipactis latifolia</i>	509
<i>Ellisia Nyctelea</i>	626	<i>pubescens</i>	510
Elm		<i>Eragrostis capillaris</i>	460
American	522	<i>caroliniana</i>	461
Cork	522	<i>ciliariensis</i>	461

Page		Page	
diffusa	461	Erythronium albidum	502
Frankii	460	americanum	502
hirsuta	461	mesochoreum	502
hypnoidea	460	Eulophus americanus	611
intermedia	461	Eupatorium altissimum	656
lugens	461	coelestinum	656
major	461	cuneifolium var. semiserratum . .	655
megastachya	461	falcatum	655
minor	461	Holsingeri	655
pectinacea	461	incarnatum	656
pectinacea of Am. auth.	461	perfoliatum	656
pectinacea var. spectabilis	461	perfoliatum var. cuneatum . . .	656
pilosa	461	purpureum	655
poaeoides	461	semiserratum	655
Purshii	461	serotinum	656
reptans	460	sessilifolium	656
spectabilis	461	urticaefolium	656
trichodes	461	urticaefolium var. villicale . .	656
Weigeltiana	460	Euphorbia commutata	590
Erechtites hieracifolia of auth. in part	677	corollata	590
hieracifolia var. intermedia	677	Cyparisias	590
Erianthus alopecuroides	478	dentata	590
divaricatus	478	dictyosperma	590
strictus	478	glyptosperma	590
ERICACEAE	613	heterophylla	590
Eriogonum bulbosa	609	humistrata	590
Erigeron annuus	665	maculata	590
canadensis	665	marginata	590
divaricatus	665	nutans	590
philadelphicus	665	obtusata	590
pulehellus	665	Preslii	590
ramosus	665	serpens	590
ramosus var. Beyrichii	665	zygophylloides	590
tennis	665	EUPHORBIACEAE	588
Eriochloa contracta	472	Eustamia glutinosa	661
punctata	472	gymnospermoidea	661
Eriogonum longifolium	525	Everlasting	666
Erodium cicutarium	586	Pearly	666
Eruca sativa	548	Evolvulus alsinoides	623
Erucastrum Pollichii	548	argenteus	623
Eryngium prostratum	609	Evonymus americanus	592
yuccifolium	609	atropurpureus	592
Erysimum arkansanum	549	obovatus	592
asperum	549	F	
cheiranthoides	549	FAGACEAE	517
repandum	549	Fagopyrum esculentum	528

	Page		Page
Fagus grandifolia	517	laxa	484
grandifolia var. caroliniana	517	mucronulata	484
Fallopia comosa	584	puberula	484
Pitcheri	584	Vahlii	484
False Aloe	506	Finger Grass	472
Boneset	656	Slender	472
Bugbane	541	Fire-bush	528
Dandelion	682	Fireweed	677
Dragon Head	632	Fire Pink	536
Flax	548	Fishberry	544
Foxglove	642	Flag	
Garlic	501	Blue	507
Grape	596	Sweet	495
Gromwell	628	Wild Blue	507
Hellebore	501	Yellow	507
Indigo	579	Flame Flower	537
Loosestrife	606	Flaveria campestris	675
Nettle	524	Flax	548
Pennyroyal	630	Fleabane	
Pimpernel	641	Daisy	665
Rue Anemone	542	Dwarf	665
Scabish	675	Marsh	665
Sensitive Plant	573	Fleur-de-lis	507
Solomon's-Seal	503	Floating Heart	619
Spikenard	503	Flower-of-an-hour	599
Starwort	661	Flowering Currant	555
Parkleberry	614	Fly Poison	500
Fennel	611	Foeniculum vulgare	611
Dog	675, 676	Fog-fruit	630
Fescue grass	459	Forestiera acuminata	618
Fescue, meadow	459	Forget-me-not	628
Festuca elatior	459	Four-o'clock, Wild	533
autans	459	Foxglove, False	642
obtusa	459	Yellow False	642
octoflora	459	Foottail Grass	478
octoflora var. glauca	459	Floating	466
octoflora var. tenella	459	Green	478
sciurea	459	Meadow	466
Shortii	459	Prairie	478
Figwort	639	Yellow	478
Fimbristylis autumnalis	484	Fragaria chiloensis var. Ananassa	565
autumnalis of Am. auth.	484	grandiflora	565
Baldwiniana	484	Grayana	565
castanea	484	vesca var. americana	565
castanea var. puberula	484	virginiana	565
Frankii	484	virginiana var. illinoensis	565
geminata	484	Frasera caroliniensis	619

Page	Page		
<i>Fraxinus americana</i>	617	<i>Gaura biennis</i>	607
<i>americana</i> var. <i>subcoriacea</i>	617	<i>coccinea</i>	608
<i>biltmoreana</i>	618	<i>filipes</i>	607
<i>pennsylvanica</i>	617	<i>parviflora</i>	607
<i>pennsylvanica</i> var. <i>lanceolata</i>	617	<i>parviflora</i> var. <i>lachnocarpa</i>	608
<i>profunda</i>	618	<i>Gay Feather</i>	657
<i>profunda</i> var. <i>Ashii</i>	618	<i>Gentian</i>	
<i>quadriangulata</i>	618	<i>Closed</i>	619
<i>French Grass</i>	577	<i>Horse</i>	650
<i>Fringe Tree</i>	618	<i>Pale</i>	619
<i>Froelichia campestris</i>	533	<i>Purple</i>	619
<i>floridana</i>	533	<i>Gentiana Andrewsii</i>	619
<i>gracilis</i>	533	<i>clausa</i>	619
<i>Frog-bit, American</i>	458	<i>flavida</i>	619
<i>Frost Flower</i>	664	<i>puberula</i>	619
<i>Fuirena simplex</i>	485	<i>quinquefolia</i> var. <i>occidentalis</i>	619
FUMARIACEAE	546	<i>Saponaria</i>	619
G			
<i>Gaillardia lutea</i>	675	GENTIANACEAE	618
<i>pulchella</i>	675	<i>Geocarpus minimum</i>	534
<i>Galactia regularis</i>	584	GERANIACEAE	586
<i>volubilis</i> var. <i>mississippiensis</i>	584	<i>Geranium carolinianum</i>	586
<i>Galarrhoeus arkansanus</i>	590	<i>carolinianum</i> var. <i>confertiflorum</i>	586
<i>missouriensis</i>	590	<i>maculatum</i>	586
<i>Galinsoga ciliata</i>	674	<i>pusillum</i>	586
<i>parviflora</i>	674	<i>Geranium, Feather</i>	529
<i>parviflora</i> var. <i>hispida</i>	674	<i>Wild</i>	586
<i>Galium Aparine</i>	648	<i>Gerardia aspera</i>	643
<i>Aparine</i> var. <i>Vallantii</i>	648	<i>auriculata</i>	643
<i>arkansanum</i>	648	<i>Besseyana</i>	643
<i>boreale</i> var. <i>hyssopifolium</i>	648	<i>fasciculata</i>	643
<i>circaezans</i>	648	<i>flava</i>	643
<i>Claytoni</i>	648	<i>grandiflora</i> var. <i>serrata</i>	642
<i>concinnum</i>	648	<i>pedicularis</i> var. <i>pectinata</i>	642
<i>pilosum</i>	648	<i>purpurea</i>	643
<i>pilosum</i> var. <i>puncticulatum</i>	648	<i>Skinneriana</i>	644
<i>tinctorium</i>	648	<i>tenuifolia</i>	643
<i>triflorum</i>	648	<i>tenuifolia</i> of auth.	644
<i>virgatum</i>	647	<i>tenuifolia</i> var. <i>macrophylla</i>	643
<i>Garden Rocket</i>	548	<i>viridis</i>	644
<i>Garlic</i>		<i>German Rose</i>	624
<i>Crow</i>	501	<i>Geum canadense</i>	567
<i>False</i>	501	<i>canadense</i> of auth.	567
<i>Wild</i>	501	<i>canadense</i> var. <i>camptorum</i>	567
		<i>laciniatum</i> var. <i>trichocarpum</i>	567
		<i>vernun</i>	567
		<i>virginianum</i> of auth.	567

Page	Page		
Ghost Flower	613	Grama, Blue	471
<i>Gilia</i> <i>neuris</i>	626	Hairy	471
<i>rubra</i>	626	Grape	
Gill-over-the-ground	632	Bird	596
<i>Gillenia stipulata</i>	556	False	596
Ginger, Wild	524	Frost	596
Ginseng	609	Northern Fox	596
<i>Gleditsia aquatica</i>	574	Post Oak	596
<i>tricanthos</i>	574	Raccoon	596
<i>tricanthos</i> var. <i>inermis</i>	574	Red	597
<i>Glyceria acutiflora</i>	459	River-bank	597
<i>arkansana</i>	459	Sand	597
<i>acerosa</i>	460	Summer	596
<i>pallida</i>	460	Winter	596
<i>septentrionalis</i>	459	Grape Hyacinth	502
<i>striata</i>	460	Grass	
<i>Glycyrrhiza lepidota</i>	579	Alkali	461
<i>Gompholobus laevis</i>	622	American Slough	470
<i>Gnaphalium obtusifolium</i>	666	Awned Wheat	463
<i>obtusifolium</i> var. <i>micradenium</i> ..	666	Barnyard	470
<i>polycephalum</i>	666	Bayonet	485
<i>purpureum</i>	666	Bear	502
Goat's Beard	556, 680	Beard	478, 479
Bue	578	Old Field	479
Golden Alexanders	610	Prairie	479
Seal	543	Silvery	479
Goldenrod		Woolly	478
Blue-stemmed	658	Bermuda	470
Early	659	Blue, Annual	460
Flat-topped	661	Canada	460
Fragrant	659	English	460
Gray	660	Kentucky	460
Rough-leaved	660	Blue-eyed	508
Goodyera pubescens	510	Blue-joint	465
Goose Grass	648	Buffalo	471
Gooseberry		Bunch, Early	464
Prickly	555	Bur	478
Southern	614	Bush	468
Wild	555	Canary	471
Goosefoot		Reed	471
Maple-leaved	529	Catch-fly	471
Oak-leaved	529	Coco	480
Gourd		Couch	462
Missouri	652	Crab	472
Wild	652	Cut	472
GRAMINEAE	458	Rice	471

Page	Page		
Dropseed	467, 468	Smut	468
Fall Witch	472	Spear, Low	460
Fescue, Meadow	459	Spike	462
Slender	459	Squirrel-tail	464
Finger	472	Switch	477
Slender	472	Thin	466
Fowl Meadow	460	Tickle	466
Foxtail	478	Triple-awned	469
Floating	466	Tumble	470
Green	478	Umbrella	485
Meadow	466	Velvet	465
Prairie	478	Vernal, Sweet	471
Yellow	478	White	472
French	577	Whitlow	547
Goose	470	Wild Oat	465
Hair	466, 467	Windmill	471
Crested	464	Witch	477
Hungarian Brome	458	Fall	473
Indian	480	Wood Reed	466
Johnson	480	Yard	470
Love	460	Grass Pink	509
Creeping	460	Grass of Parnassus	554
Indian	461	Gratiola <i>anagallidea</i>	641
Purple	461	<i>dubia</i>	641
Manna		<i>lutea</i>	641
Floating	460	<i>neglecta</i>	641
Pale	460	<i>sphaerocarpa</i>	641
Melic	462	<i>virginiana</i>	641
Mesquite	471	<i>virginiana</i> of auth.	641
Hairy	471	Greek Valerian	626
Oat	465	Green Dragon	495
Orchard	462	Green-brier	506
Porcupine	469	Bristly	506
Poverty	469	Grindelia lanceolata	658
Prairie Cup	472	<i>lanceolata</i> f. <i>latifolia</i>	658
Quack	462	<i>squarrosa</i>	657
Quitch	462	<i>squarrosa</i> var. <i>nuda</i>	657
Reed, Long-leaved	465	<i>squarrosa</i> var. <i>serratula</i>	657
Rib	647	Gromwell	
Rye		Corn	628
Italian	464	False	628
Perennial	464	<i>Grossularia missouriensis</i>	555
Salt	461	Ground	
Sand	462	Cherry	637
Satin	467	Honeysuckle	576
Seratch	467	Ivy	632
Slough	471	Plum	578

	Page		Page
Groundnut	583	<i>Hedysarum frutescens</i>	582
Gum		<i>Helenium altissimum</i>	675
Black	613	autumnale	675
Sweet	555	<i>campestre</i>	675
Gum Plant	657	<i>latifolium</i>	675
Gum-elastic	616	<i>nudiflorum</i>	675
Gutierrezia dracunculoides	658	<i>polyphyllum</i>	675
Gymnocladus dioica	573	<i>tenuifolium</i>	675
Gymnopogon ambiguus	471	<i>Heleochnia schoenoides</i>	469
H			
Habenaria ciliaris	509	<i>Helianthemum Bicknellii</i>	601
clavellata	509	<i>canadense</i>	601
flava var. <i>virescens</i>	509	<i>majus</i>	601
lacer	509	<i>Helianthus angustifolius</i>	671
leneophaea	509	<i>annuus</i>	670
peramoena	509	<i>atrorubens</i> var. <i>pubescens</i>	671
Hackberry	522	<i>decapetalus</i>	672
Dwarf	523	<i>divaricatus</i>	671
Southern	522	<i>doronicoides</i>	670
Hair Grass	466, 467	<i>formosus</i>	671
HALORAGIDACEAE	608	<i>grosseserratus</i>	671
HAMAMELIDACEAE	555	<i>hirsutus</i>	672
Hamamelis vernalis	555	<i>hirsutus</i> var. <i>leoninus</i>	672
<i>vernalis</i> f. <i>carnea</i>	555	<i>hirsutus</i> var. <i>trachyphyllus</i>	672
<i>vernalis</i> f. <i>tomentella</i>	555	<i>instabilis</i>	672
<i>virginiana</i>	555	<i>laetiflorus</i>	671
Harbinger-of-spring	609	<i>lenticularis</i>	671
Hardhack	556	<i>leoninus</i>	672
Harebell	653	<i>leptocaulis</i>	672
Hartmannia speciosa	607	<i>Maximiliani</i>	671
Haw		<i>microcephalus</i>	671
Black	651	<i>mollis</i>	671
Green	560	<i>mollissimus</i>	672
Parsley	564	<i>occidentalis</i>	671
Possum	591	<i>orygialis</i>	671
Summer	563	<i>petiolaris</i>	670
Hawk's Beard	681	<i>rigidus</i>	671
Hawkweed	682	<i>salicifolius</i>	671
Hazelnut	516	<i>scaberrimus</i>	671
Beaked	516	<i>strumosus</i>	672
Heal-all	632	<i>subcanescens</i>	672
Hedeoma acinoides	634	<i>tracheliiifolius</i>	672
<i>hispida</i>	634	<i>tuberosus</i>	672
<i>pulegioides</i>	634	<i>tuberosus</i> var. <i>subcanescens</i>	672
Hedge Nettle	632	<i>viridis</i>	672
		<i>Heliospopsis helianthoides</i>	669
		<i>scabra</i>	669
		<i>Heliotrope, Indian</i>	627

Page		Page	
Heliotropium indicum	627	Shag-bark	514
tenellum	627	Shell-bark	514
Hellebore, False	501	Swamp	514
Helleborine	509	White	515
Hemeroallis fulva	502	<i>Hicoria cordiformis</i>	514
Hemicarpha micrantha	485	<i>glabra</i>	514
micrantha var. aristulata	485	<i>microcarpa</i>	514
Hemlock Chervil	612	<i>ovata</i>	514
Parsley	612	<i>Pecan</i>	514
Hemp	523	<i>villosa</i>	514
Indian	620	<i>Hieracium Greenii</i>	682
Water	532, 533	<i>Gromovii</i>	682
Hemp-weed, Climbing	656	<i>Gronovii</i> var. <i>foliosum</i>	682
Henbit	632	<i>longipilum</i>	682
Hepatica	541	<i>seabrum</i>	682
<i>acutiloba</i>	541	<i>Traillii</i>	682
<i>acutiloba</i> f. <i>albiflora</i>	541	<i>venosum</i>	682
<i>acutiloba</i> f. <i>rosea</i>	541	HIPPOCASTANACEAE	594
<i>americana</i>	541	<i>Hoary Alyssum</i>	547
<i>americana</i> f. <i>candida</i>	541	<i>Hoffmanseggia Jamesii</i>	574
<i>Hepatica</i>	541	<i>Hog Peanut</i>	584
<i>triloba</i> of Am. auth.	541	<i>Hogwort</i>	588
Heracleum lanatum	612	<i>Holeus lanatus</i>	465
Hercules' Club	608	<i>Hollyhock</i>	598
Heteranthera dubia	498	<i>Honewort</i>	610
<i>limosa</i>	497	Honeysuckle	
<i>reniformis</i>	498	<i>Grape</i>	650
Heterotheca subaxillaris	658	<i>Ground</i>	576
Heuchera americana	553	<i>Japanese</i>	650
<i>hiruticaulis</i>	554	<i>Trumpet</i>	650
<i>hispida</i> of auth.	554	<i>Wild</i>	613
<i>macrorhiza</i>	554	<i>Yellow</i>	650
<i>parviflora</i> of auth.	554	<i>Hop</i>	523
<i>puberula</i>	554	<i>Japanese</i>	523
<i>Richardsonii</i> var. <i>Grayana</i>	554	<i>Hop Hornbeam</i>	516
<i>villosa</i>	554	<i>Tree</i>	587
Hexalectris <i>aphylla</i>	511	<i>Hordeum jubatum</i>	464
<i>spicata</i>	511	<i>nodosum</i>	464
Hibiscus incanus	599	<i>pusillum</i>	464
<i>lasiocarpus</i>	599	<i>sativum</i>	460
<i>militaris</i>	599	<i>vulgare</i> var. <i>trifurcatum</i>	464
<i>syriacus</i>	599	<i>Horehound</i>	631
<i>Trionum</i>	599	<i>Water</i>	635
Hickory		<i>Hornwort</i>	538
Big Shell-bark	514	<i>Horse Balm</i>	636
Bitternut	514	<i>Gentian</i>	650
Pignut	514	<i>Mint</i>	634

Page		Page	
Nettle	636	HYPERICACEAE	599
White Horse Nettle	636	<i>Hypericum Ascyron</i>	599
Horse-weed	668	<i>cistifolium</i>	600
Horseradish	550	<i>densiflorum</i>	600
<i>Hosackia americana</i>	576	<i>Drummondii</i>	600
<i>Hottonia inflata</i>	615	<i>gentianoides</i>	600
Hound's Tongue	627	<i>gymnanthum</i>	600
<i>Houstonia angustifolia</i>	649	<i>lobocarpum</i>	600
<i>caerulea</i>	649	<i>mutilum</i>	600
<i>ciliolata</i>	649	<i>perforatum</i>	599
<i>lanceolata</i>	649	<i>petiolatum</i>	600
<i>longifolia</i>	649	<i>prolificum</i>	600
<i>minima</i>	649	<i>pseudomaclatum</i>	599
<i>patens</i>	649	<i>punctatum</i>	599
<i>purpurea</i>	649	<i>virginicum</i>	600
<i>tenuifolia</i>	649	<i>Hypoxis hirsuta</i>	507
Huckleberry		<i>hirsuta</i> var. <i>leptocarpa</i>	507
High-bush	614	<i>Hyssop, Clammy Hedge</i>	641
Low-bush	614	<i>Giant</i>	631
Humulus japonicus	523	<i>Water</i>	641
<i>Lupulus</i>	523	<i>Hystrix Hystrix</i>	464
Hungarian Brome Grass	458	<i>patula</i>	464
Hyacinth		I	
Grape	502	<i>Ilex decidua</i>	591
Water	497	<i>opaca</i>	592
Wild	502	<i>verticillata</i> var. <i>padifolia</i>	592
Hybanthus concolor	601	ILLECEBRACEAE	534
Hydrangea arborescens	554	<i>Ilysanthes anagallidea</i>	641
arborescens var. <i>Deamii</i>	554	<i>dubia</i>	641
arborescens var. <i>Deamii f. acarpa</i>	554	<i>inaequalis</i>	641
arborescens f. <i>grandiflora</i>	554	Impatiens Balsamina	595
arborescens var. <i>oblonga</i>	554	<i>biflora</i>	595
arborescens var. <i>oblonga f. sterilis</i>	554	<i>pallida</i>	594
<i>cineraria f. sterilis</i>	554	Indian Blanket	644, 675
Hydrangea, Wild	554	Bread-root	576
Hydrastis canadensis	543	Cherry	595
HYDROCHARITACEAE	457	Corn	480
Hydrolea affinis	627	Cucumber-root	503
<i>ovata</i>	627	Currant	650
HYDROPHYLACEAE	626	Grass	480
Hydrophyllum appendiculatum	626	Heliotrope	627
<i>canadense</i>	626	Hemp	620
<i>virginianum</i>	626	Love Grass	461
Hymenocallis occidentalis	506	Mustard	548
Hymenopappus carolinensis	675	Pink	536
<i>corymbosus</i>	675		
<i>scabiosaceus</i>	675		

Page		Page	
Pipe	613	Jerusalem Artichoke	672
Plantain	677	Jimson Weed	638
Strawberry	566	Johnny Jump-up	603
Tobacco	654	Johnson Grass	490
Turnip	495	Jointweed	528
Indigo		Juba's Bush	533
Blue False	575	JUGLANDACEAE	514
False	579	Juglans cinerea	514
White Wild	575	nigra	514
Innocence	649	JUNCACEAE	498
Inula Helenium	666	Juncus acuminatus	499
Iodanthus pinnatifidus	551	alpinus var. fuscescens	499
Ipecac, American	556	aristulatus	498, 500
Ipomoea coccinea	623	balticus var. littoralis	498
hederacea	623	biflorus	500
lacunosa	623	biflorus f. adinus	500
pandurata	623	brachycearpus	499
pandurata var. rubescens	623	bufonius	498
purpurea	623	canadensis	499
Quamoclit	623	canadensis var. subcaudatus	499
Iresine paniculata	533	dichotomus	498
IRIDACEAE	507	diffusissimus	499
Iris caroliniana	507	Dudleyi	498
cristata	507	effusus var. solutus	498
Dwarf Wild	507	interior	498
foliosa	507	kansanus	498
fulva	507	macer	498
pallida	507	macer var. anthelatus	498
pseudacorus	507	marginatus	499
pumila	507	marginatus var. setosus	500
Shrevei	507	monostichus	498
versicolor of auth. in part	507	nodatus	499
virginica	507	nodosus	499
Ironweed	634	polycephalus	499
Ironwood	517	polycephalus of auth.	499
Isanthus brachiatus	630	robustus	499
Isopyrum binternatum	542	scirpoideus	499
Istotria affinis	509	secundus	498
Itea virginica	554	subeaudatus	499
Iva ciliata	667	tenuis	498
xanthifolia	667	tenuis of auth.	498
Ivy, Ground	632	tenuis var. anthelatus	498
Kenilworth	639	Torreyi	499
J		validus	499
Jack-in-the-pulpit	495	Juneberry	557
Jacob's Ladder	626	Juniperus Ashei	454
		mexicana	454

	Page		Page
<i>sabinoides</i>	454	<i>canadensis</i> var. <i>obovata</i> f. <i>steno-</i>	
<i>virginiana</i>	454	<i>poda</i>	681
<i>virginiana</i> var. <i>crebra</i>	454	<i>canadensis</i> var. <i>typica</i>	681
<i>Jussiaea decurrens</i>	605	<i>floridana</i>	682
<i>diffusa</i>	605	<i>graminifolia</i>	682
K			
<i>Kallstroemia intermedia</i>	587	<i>hirsuta</i>	681
<i>mazima</i>	587	<i>integrifolia</i> of auth.	681
<i>Kenilworth Ivy</i>	639	<i>ludoviciana</i>	681
<i>Kentucky Blue Grass</i>	460	<i>pulchella</i>	682
<i>Coffee-tree</i>	573	<i>sagittifolia</i>	681
<i>Kickxia Elatine</i>	639	<i>saligna</i>	681
<i>Kingnut</i>	514	<i>scariola</i>	681
<i>Kinnikinnik</i>	613	<i>scariola</i> var. <i>integrata</i>	681
<i>Kneiffia linearis</i>	607	<i>villosa</i>	682
<i>pratinus</i>	607	<i>Ladies' Ear-drops</i>	528
<i>Knot-grass</i>	526	<i>Tobacco</i>	665
<i>Knot-weed</i>	526	<i>Tresses</i>	509
<i>Japanese</i>	528	<i>Little</i>	509
<i>Kochia prostrata</i>	529	<i>Nodding</i>	510
<i>separia</i>	529	<i>Slender</i>	509
<i>trichophylla</i>	528	<i>Lady's Slipper</i>	
<i>Koeleria cristata</i>	464	<i>Large Yellow</i>	508
<i>Krigia amplexicaulis</i>	680	<i>Showy</i>	508
<i>biflora</i>	680	<i>Small White</i>	508
<i>Dandelion</i>	680	<i>Yellow</i>	508
<i>occidentalis</i>	680	<i>Sorrel</i>	585
<i>virginica</i>	680	<i>Lady's Thumb</i>	527
<i>Kuhnia eupatorioides</i>	656	<i>Lagenaria vulgaris</i>	653
<i>eupatorioides</i> var. <i>angustifolia</i>	656	<i>Lamb's Quarter</i>	529
<i>eupatorioides</i> var. <i>corymbulosa</i>	656	<i>Lamium amplexicaule</i>	632
<i>Kyllingia pumila</i>	482	<i>purpureum</i>	632
L			
LABIATAE	630	<i>Laportea canadensis</i>	524
<i>Lacistema angustifolia</i>	657	<i>Lappula echinata</i>	628
<i>Lactuca canadensis</i> of auth. in part	681	<i>Redowskii</i> var. <i>occidentalis</i>	627
<i>canadensis</i> var. <i>integrifolia</i>	681	<i>virginiana</i>	627
<i>canadensis</i> var. <i>integrifolia</i> f. <i>an-</i>		<i>Larkspur</i>	543
<i>gustata</i>	681	<i>Dwarf</i>	543
<i>canadensis</i> var. <i>latifolia</i>	681	<i>Glade</i>	543
<i>canadensis</i> var. <i>latifolia</i> f. <i>exau-</i>		<i>Prairie</i>	543
<i>riulata</i>	681	<i>Lathyrus palustris</i>	583
<i>canadensis</i> var. <i>montana</i>	681	<i>palustris</i> var. <i>myrtifolius</i>	583
<i>canadensis</i> var. <i>obovata</i>	681	<i>pusillus</i>	583
		<i>venosus</i> var. <i>intonsus</i>	583
		LAURACEAE	545
		<i>Lavauxia triloba</i>	607
		<i>Lead Plant</i>	579
		<i>Leaf-cup</i>	666

Page	Page		
Leather Flower	542	capitata var. sericea	582
Swamp	542	frutescens	582
Leatherwood	604	hirta	582
Leavenworthia uniflora	551	intermedia	582
Lechea major	601	Manniana	581
tenuifolia	601	Nuttallii	582
villosa	600	procumbens	581
Leek, Wild	501	repens	581
Leersia lenticularis	471	simulata	582
oryzoides	471	stipulacea	582
virginica	472	strinta	582
LEGUMINOSAE	573	Stuevei	581
Leitneria floridana	513	Stuevei var. angustifolia	581
LEITNERIACEAE	513	Stuevei var. neglecta	581
Lemna cyclostaza	495	violacea	581
minor	495	violacea var. <i>prairea</i>	581
perpusilla	495	virginica	582
perpusilla var. trinervis	495	Lesquerella angustifolia	547
trisula	495	gracilis	547
valdiviana	495	Lettuce, Prickly Wild	681
LEMNACEAE	495	Leucospora multifida	641
Lemon Balm	634	Levisticum officinale	612
Lemotris hyacinthina	502	Liatris acidota	657
LENTIBULARIACEAE	644	aspera	657
Leontodon erythrospermum	680	cylindracea	657
Taraxacum	680	glabrata	657
Leonurus Cardiac	632	hirsuta	656
Lepachys columnaris	670	punctata of auth.	657
columnaris var. pulcherrima	670	pyenostachya	657
pinnata	670	scariosa	657
Lepidium apetalum	548	sphaeroidea	657
campestre	548	spicata	657
densiflorum	548	squarrosa	656
Draba	548	squarrosa var. intermedia	657
neglectum	548	Licorice, Wild	648
perfoliatum	548	Ligusticum canadense	611
texanum	548	LILIACEAE	500
virginicum	548	Lilium michiganense	502
Leptandra virginica	641	superbum	502
Leptochloa attenuata	470	tigrinum	502
fascicularis	470	Lily	
filiformis	470	Blackberry	507
mucronata	470	Day	502
Leptoloma cognatum	472	Glade	607
Lespedeza acuticarpa	582	Tiger	502
capitata	582	Turk's-cap	502
capitata var. longifolia	582		

Page		Page	
Limnobium Spongia	458	Locust	
Limosella aquatica of auth.	642	Black	578
<i>aquatica</i> var. <i>tenuifolia</i> of auth.	642	Honey	574
<i>subulata</i>	642	Water	574
<i>tenuifolia</i>	642	LOGANIACEAE	618
LINACEAE	586	Lolium multiflorum	464
Linaria canadensis var. texana	639	perenne	464
<i>Cymbalaria</i>	639	temulentum	464
<i>Elatine</i>	639	<i>Lomatium daucifolium</i>	611
<i>spuria</i>	639	Lonicera dioica var. <i>glaucescens</i>	650
<i>vulgaris</i>	639	flava	650
Linden	597	flavida	650
Linn	597	<i>glaucescens</i>	650
Linseed	586	japonica	650
Linum medium	586	prolifera	650
<i>rigidum</i>	586	sempervirens	650
<i>striatum</i>	586	<i>Sullivantii</i>	650
<i>sulcatum</i>	586	Loosestrife	
<i>usitatissimum</i>	586	False	606
Liparis liliifolia	510	Purple	605
Lippia lanceolata	630	Tufted	615
<i>lanceolata</i> var. <i>recognita</i>	630	Whorled	616
<i>nodiflora</i>	630	Winged	605
Liquidambar Styraciflua	555	Lophotocarpus calycinus	457
Liquorice, Wild	579	Lopseed	646
Liriodendron Tulipifera	544	LORANTHACEAE	524
Lithospermum angustifolium	628	Lotus americanus	576
<i>arvense</i>	628	corniculatus	576
<i>canescens</i>	628	Oriental	539
<i>carolinense</i>	628	Yellow	538
<i>Gmelini</i>	628	Lousewort	644
<i>latifolium</i>	628	Lovage	612
Live-forever	553	Love Grass	460
Liver-leaf	541	Creeping	460
Lizard's-tail	511	Indian	461
LOASACEAE	604	Purple	461
Lobelia cardinalis	653	Love-vine	624
<i>infata</i>	654	Ludwigia alternifolia	606
<i>leptostachys</i>	654	glandulosa	606
<i>puberula</i>	653	natans var. <i>typica</i>	606
<i>siphilitica</i>	653	palustris of auth.	606
<i>spicata</i>	654	palustris var. <i>americana</i>	606
<i>spicata</i> var. <i>hirtella</i>	654	polycarpa	606
Lobelia, Blue	653	Luzula campestris var. <i>bulbosa</i>	500
LOBELIACEAE	653	Lychnis alba	536
Loco Weed	578	dioica	536

	Page		Page
<i>Lycium halimifolium</i>	638	<i>rotundifolia</i>	598
<i>Lycopersicum esculentum</i>	638	<i>sylvestris</i>	598
<i>Lycopus americanus</i>	635	MALVACEAE	598
<i>asper</i>	635	<i>Malvastrum angustum</i>	598
<i>lucidus</i> var. <i>americanus</i>	635	<i>Mamillaria missouriensis</i> var. <i>caes-</i>	
<i>rubellus</i>	635	<i>pitosa</i>	604
<i>virginicus</i>	635	Man-of-the-earth	623
<i>Lygodesmia juncea</i>	682	Mandrake	544
<i>Lysimachia Nummularia</i>	615	<i>Manisuris cylindrica</i>	480
<i>thyrsiflora</i>	615	Manna Grass	
LYTHRACEAE	604	Floating	460
<i>Lythrum alatum</i>	605	Pale	460
<i>Salicaria</i>	605	Maple	
M			
<i>Maclura pomifera</i>	523	Black	593
<i>Macuillamia rotundifolia</i>	641	Red	593
Mad-dog Skulcap	630	Silver	593
Madder, Wild	648	Soft	593
<i>Magnolia acuminata</i>	544	Sugar	592, 593
<i>acuminata</i> var. <i>ozarkensis</i>	544	MARANTACEAE	508
MAGNOLIACEAE	544	Marigold	
Maiden Pink	536	Fetid	675
<i>Malaxis unifolia</i>	510	Water	674
Mallow		Marrubium vulgare	631
Clustered Poppy	598	Marshallia caespitosa	674
Common	598	<i>obovata</i> var. <i>platyphylla</i>	674
Curled	598	Martynia louisiana	646
Fringed Poppy	599	MARTYNIACEAE	646
High	598	Matricaria Chamomilla	676
Musk	598	<i>matricarioides</i>	676
Poppy	599	<i>suaveolens</i>	676
Purple Poppy	598	Matrimony Vine	638
Yellow False	598	May Apple	544
Malus bracteata	557	Maypops	604
<i>coronaria</i>	557	Meadow Beauty	605
<i>ioensis</i>	556	Rue	541
<i>ioensis</i> var. <i>Bushii</i>	556	Early	541
<i>ioensis</i> var. <i>Palmeri</i>	556	Meadow-Sweet	556
<i>ioensis</i> var. <i>spinosa</i>	556	Mecardonia acuminata	641
<i>lanceifolia</i>	556	Medeola virginiana	563
<i>Malus</i>	556	Medicago hispida	576
<i>pumila</i>	556	<i>lupulina</i>	576
<i>× Soulardi</i>	557	<i>sativa</i>	576
Malva crispa	598	Medick, Black	576
<i>moschata</i>	598	Megapterium missouriense	607
<i>parviflora</i>	598	Meibomia grandiflora	579
		Melanthium virginicum	500
		MELASTOMACEAE	605

Page	Page		
Melic Grass	462	Dotted	472
<i>Melica mutica</i>	462	Hungarian	478
<i>nitens</i>	462	Italian	478
Porteri	462	Mimulus alatus	640
<i>Melilotus alba</i>	576	<i>glabratu</i> s var. <i>Fremontii</i>	640
<i>officinalis</i>	576	<i>ringens</i>	640
<i>Melissa officinalis</i>	634	Mint	
<i>Melothria pendula</i>	653	Bergamot	636
MENISPERMACEAE	544	Corn	636
<i>Menispermum canadense</i>	544	Field	636
<i>Mentha alopecuroides</i>	635	Horse	634
<i>arvensis</i>	636	Ohio	634
<i>arvensis</i> var. <i>canadensis</i>	636	Mountain	634
<i>arvensis</i> var. <i>glabrata</i>	636	Wood	634
<i>Cardiaca</i>	635	Woolly	635
<i>eritrat</i> a	636	Missouri Gourd	652
<i>gentilis</i>	636	Mist-flower	656
<i>longifolia</i>	635	Mistletoe	524
<i>piperita</i>	636	Mitchella repens	648
<i>spicata</i>	636	Mitella diphylla	554
<i>sylvestris</i>	635	Miterwort	554
<i>Mentzelia oligosperma</i>	604	Mock Bishop's-weed	610
<i>Mercurialis annua</i>	588	Mocker Nut	515
<i>Mercury</i>	588	Mollugo verticillata	534
Three-seeded	588	Monarda Bradburiana	634
<i>Meriolix serrulata</i>	607	<i>citriodora</i>	634
<i>Mertensia virginica</i>	628	<i>didyma</i>	633
<i>Mesquite Grass</i>	471	<i>dispersa</i>	634
<i>Mesquite, vine</i>	477	<i>fistulosa</i>	633
<i>Mexican Tea</i>	529	<i>fistulosa</i> var. <i>mollis</i>	633
<i>Miami Mist</i>	626	<i>mollis</i>	633
<i>Micranthes pennsylvanica</i>	553	<i>pectinata</i>	633
<i>tezana</i>	553	<i>punctata</i>	634
<i>virginiensis</i>	553	<i>punctata</i> var. <i>occidentalis</i>	634
<i>Microstylis unifolia</i>	510	<i>punctata</i> subsp. <i>occidentalis</i>	634
<i>Mikania scandens</i>	656	<i>punctata</i> var. <i>villicaulis</i>	634
Milkweed		Moneywort	615
Climbing	623	Monkey Flower	640
Green	622	Monolepis Nuttalliana	531
Purple	621	Monotropa Hypopitys	613
Swamp	621	<i>uniflora</i>	613
Whorled	622	Mouseseed	544
Milkwort		MORACEAE	523
Field	587	Morning Glory	
Pink	587	Blue	623
Millet		Common	623
Broom-eorn	477	Dwarf	623

Page		Page	
Japanese	624	Tansy	549
Red	623	Tumble	549
Small White	623	White	548
Morus alba	523	Worm-seed	549
rubra	523	Myosotis scirpoidea	628
Moth Mullein	639	virginica	628
Motherwort	632	virginica var. macroperma	628
Mouse-ear	535	Myosurus minimus	541
Mouse-tail	541	Myriophyllum heterophyllum	608
Mud Plantain	498	proserpinacoides	608
Mudwort	642	seabratum	608
Mugwort	676	N	
Muhlenbergia asperifolia	467	Naiad	456
brachyphylla	467	NAJADACEAE	455
capillaris	467	Najas guadalupensis	456
curtisetosa	467	Nannyberry	632
cuspidata	466	Narcissus poeticus	506
expansa	468	Poet's	506
foliosa	467	Neckweed	642
glabriflora	467	Needle-and-thread	502
mexicana	467	Nelumbo lutea	538
mexicana f. commutata	467	nucifera	539
racemosa	467	pentapetala	538
Schreberi	467	Nemastylis acuta	507
Schreberi var. curtisetosa	467	Nemophila microcalyx	628
sobolifera	467	Neobeckia aquatica	550
sylvatica	467	Nepeta Cataria	632
sylvatica f. attenuata	467	hederacea	632
tenuiflora	467	hederacea var. parviflora	632
trichopodes	468	Nettle	
umbrosa	467	Bull	636
umbrosa f. attenuata	467	Dead	632
Mullein	638	Dwarf	524
Moth	639	False	524
Mulberry		Hedge	632
Paper	523	Horse	636
Red	523	Slender	524
White	523	White Horse	636
Muscadine	597	Wood	524
Museari botryoides	502	Nettle-tree	414
Musk-melon	653	New Jersey Tea	595
Mustard		Nicandra Physalodes	638
Black	549	Nicotiana longifolia	638
Curled	549	rustica	638
Hare's-ear	549	Nigger Head	669
Hedge	549		
Indian	548		

	Page		Page
Nightshade		White	517
Black	636	Willow	519
Climbing	636	Yellow	518, 519
Nimble Will	467	Oakesia sessilifolia	501
Nimebark	556	Oats	465
Nipple Cactus	604	Wild	465, 501
Nodding Wild Onion	501	Yellow False	465
Notholcus lanatus	465	Obedient Plant	632
Nothoscordum bivalve	501	Oenothera biennis	607
Nut-grass		fruticosa	607
Tall	486	<i>fruticosa</i> var. <i>hirsuta</i>	607
Yellow	481	hybrida	607
NYCTAGINACEAE	533	laciniate	606
Nymphaea advena	538	laciniate var. grandiflora	606
odorata	538	linearis	607
osarkana	538	linifolia	606
tuberosa	538	missouriensis	607
NYMPHAEACEAE	538	muricata	606
Nymphoides peltatum	619	muricata var. canescens	606
Nymphozanthus advena	538	parviflora	606
ozarkanus	538	pratensis	607
Nyssa aquatica	613	rhombipetala	606
sylvatica	613	serulata	607
O		speciosa	607
Oak		strigosa	607
Basket	518	triloba	607
Black	520	Old Man's Beard	618
Black Jack	519	Oidenlandia uniflora	650
Bur	518	OLEACEAE	617
Chinquapin	518	ONAGRACEAE	605
Cow	518	Onion	
Jack	519	Nodding Wild	501
Jerusalem	529	Wild	501
Overcup	517	Onopordum Acanthium	679
Pin	519	Onosmodium hispidissimum	628
Post	517	<h3>hispidissimum var. macro-</h3>	
Red	519	spermum	628
Scarlet	519	occidentale	628
Scrub	518	occidentale var. sylvestre	628
Shin	518	subsetosum	628
Shingle	520	Opuntia macrorhiza	604
Southern Red	518	Rafinesquii	604
Spanish	518	Orechard Grass	462
Swamp White	518	ORCHIDACEAE	508
Turkey	519	Orchis	
Water	519	Green Wood	509
		Nodding Log	509

Page		Page	
Purple Fringed	509	Oxybaphus albidus	534
Ragged	509	Bushii	534
Showy	508	hirsutus	533
White-flowered Prairie	509	hirsutus var. integrifolius	533
Yellow	509	floribundus	533
Yellow Fringed	509	linearis	534
Orchis spectabilis	508	nyctagineus	533
Ornithogalum nutans	502	pilosus	533
umbellatum	502	Oxypolis rigidior	612
OROBANCHACEAE	645	rigidior var. ambigua	612
Orobanche uniflora	645	Oxytropis <i>Lamberti</i>	578
Orpine	553	plattensis	578
Oryza sativa	480	P	
Oryzopsis racemosa	469	Painted Cup	644
Osage Orange	523	Leaf	590
Osmorhiza Claytoni	610	Palafoxia callosa	675
longistylis	610	Panax quinquefolium	609
longistylis var. villicaulis	610	Panicaria nervata	460
Ostrya virginiana	518	Panicum agrostoides	477
virginiana var. glandulosa	516	anceps	477
Othake callosum	675	annulum	474
Otophylla auriculata	643	Ashei	476
OXALIDACEAE	585	barbulatum	474
Oxalis <i>Bushii</i>	585	Bicknellii	474
corniculata	585	Boscii	476
corniculata of Am. auth.	585	Boscii var. molle	476
corniculata var. viscidula	586	<i>Bushii</i>	474
cymosa	585	capillare	477
europaea	585	capillare var. occidentalis	477
europaea var. <i>Bushii</i>	585	clandestinum	476
europaea var. <i>Bushii</i> f. <i>subglabra</i>	585	commutatum	476
europa	585	commutatum var. <i>Ashei</i>	476
europa var. <i>Bushii</i>	585	depauperatum	473
europa var. <i>Bushii</i> f. <i>subglabra</i>	585	dichotomiflorum	476
filipes	585	elongatum	477
florida var. <i>strigosifolia</i>	585	flexile	476
interior	585	Gattingeri	476
pilosa var. <i>Wrightii</i>	586	Helleri	475
repens	585	hians	477
stricta	585	huachucae	474
stricta var. <i>pileocarpa</i>	585	huachucae var. <i>silvicola</i>	474
violacea	585	implicatum	475
Ox-eye	669	lanuginosum var. <i>fascieulatum</i>	474
Rough	669	lanuginosum var. <i>implicatum</i>	475
Ox-eye Daisy	676		

	Page		Page
<i>lanuginosum</i> var. <i>Lindheimeri</i>	474	Parsley	
<i>lanuginosum</i> var. <i>septentrionale</i>	474	Hemlock	612
<i>latifolium</i>	476	Prairie	611
<i>Leibergii</i>	476	Parsnip	611
<i>Lindheimeri</i>	474	Cow	612
<i>Lindheimeri</i> var. <i>fasciculatum</i>	474	Meadow	610
<i>Lindheimeri</i> var. <i>implicatum</i>	475	Parthenium <i>hispidum</i>	667
<i>Lindheimeri</i> var. <i>septentrionale</i>	474	<i>Hysterochorus</i>	667
<i>linearifolium</i>	473	<i>integrifolium</i>	667
<i>linearifolium</i> var. <i>Wernerii</i>	473	<i>repens</i>	667
<i>malacophyllum</i>	475	Parthenocissus <i>quinquefolia</i>	595
<i>microcarpon</i>	474	<i>quinquefolia</i> var. <i>hirsuta</i>	595
<i>miliaceum</i>	477	<i>quinquefolia</i> var. <i>Saint-Paulii</i>	596
<i>nitidum</i>	474	<i>vitacea</i>	596
<i>obtusum</i>	477	Partridge Berry	648
<i>oligosanthes</i> var. <i>Helleri</i>	475	Paspalum <i>Bushii</i>	473
<i>oligosanthes</i> var. <i>Scribnorianum</i>	475	<i>ciliatifolium</i>	472
<i>perlongum</i>	473	<i>ciliatifolium</i> var. <i>Muhlenbergii</i>	473
<i>philadelphicum</i>	476	<i>ciliatifolium</i> var. <i>stramineum</i>	473
<i>polyanthes</i>	475	<i>circulare</i>	473
<i>Porterioides</i>	476	<i>dissectum</i>	472
<i>praeocciosus</i>	475	<i>floridanum</i>	473
<i>pubifolium</i>	476	<i>laeve</i> var. <i>circulare</i>	473
<i>Ravenelii</i>	475	<i>laeve</i> var. <i>pilosum</i>	473
<i>scoparium</i>	476	<i>laeviglume</i>	473
<i>Scribnorianum</i>	475	<i>muconatum</i>	472
<i>sphaeroearpon</i>	475	<i>Muhlenbergii</i>	473
<i>sphaeroearpon</i> var. <i>inflatum</i>	475	<i>plenipilum</i>	473
<i>spretum</i>	474	<i>praecolum</i>	473
<i>stipitatum</i>	477	<i>pubescens</i>	473
<i>subvillosum</i>	475	<i>pubiflorum</i> var. <i>glabrum</i>	473
<i>tennesseense</i>	474	<i>repens</i>	472
<i>villosissimum</i>	475	<i>stramineum</i>	473
<i>virgatum</i>	477	Passiflora <i>incarnata</i>	604
<i>Wernerii</i>	473	<i>lutea</i>	604
<i>xalapense</i>	474	PASSIFLORACEAE	604
Papaver <i>dubium</i>	546	Passion Flower	604
Rhoecas	546	Pastinaca <i>sativa</i>	611
<i>somniferum</i>	546	Paulownia <i>tomentosa</i>	640
PAPAVERACEAE	545	Pea	
Papaw	544	Butterfly	584
Parietaria <i>obtusa</i>	524	Cow	584
<i>pennsylvanica</i>	524	Hoary	578
Parnassia <i>grandifolia</i>	554	Marsh	583
Parosela <i>Dalea</i>	577	Milk	584
<i>enneandra</i>	577	Partridge	574
<i>leporina</i> var. <i>alba</i>	577	Scurvy	577

Page		Page	
Sensitive	575	Phacelia bipinnatifida	626
Turkey	584	dubia	627
Peanut, Hog	584	hirsuta	627
Pear	556	Purshii	626
Pearlwort	534	Phalaris arundinacea	471
Pearly Everlasting	666	canariensis	471
Pecan	514	caroliniana	471
Bitter	514	Phaseolus polystachyus	584
PEDALIACEAE	645	Philotria canadensis	457
Pedicularis canadensis	644	Phleum pratense	466
lanceolata	644	Phlox amplifolia	625
Pellitory	524	bifida	625
Peltandra virginica	495	Blue	625
virginica f. hastifolia	495	divaricata var. Laphamii	625
Pennyroyal	634	Drummondii	626
False	630	glaberrima var. interior	625
Penthorum sedoides	552	glaberrima var. melampyrifolia	625
Pentstemon arkansanus	640	maculata var. odorata	625
arkansanus var. pubescens	640	paniculata	625
ealyosus	640	pilosa var. fulgida	625
canescens of auth.	639	pilosa var. fulgida f. albibifora	625
Cobaea var. purpurea	640	pilosa var. ozarkana	625
Digitalis	640	pilosa var. virens	625
grandiflorus	640	stellata	625
laevigatus var. Digitalis	640	Phoradendron flavescens	524
pallidus	639	Phragmites communis of Am. auth.	462
tubiflorus	640	communis var. Berlandieri	462
Peplis diandra	604	Phryma Leptostachya	646
Pepper-root	551	PHRYMACEAE	646
Pepper-vine	596	Phyllanthus caroliniensis	589
Peppergrass	548	Physalis angulata	637
Peppermint	636	barbadensis	637
Peramium pubescens	510	barbadensis var. obscura	637
Perilla frutescens	636	heterophylla	637
Periwinkle	621	heterophylla var. ambigua	637
Persicaria amphibia	527	heterophylla var. nyctaginea	637
Hydropiper	527	ixocarpa	637
Muhlenbergii	527	Lagascae	637
opelousana	528	lanceolata	638
punctata	527	longifolia	638
Persimmon	616	missouriensis	637
Petalostemum candidum	578	pendula	637
multiflorum	577	peruviana	638
purpureum	577	pruinosa	637
purpureum var. pubescens	577	pubescens	637
Petunia, Wild	646	pumila	638

	Page		Page
<i>subglabrata</i>	638	<i>Strobis</i>	454
<i>virginiana</i>	638	<i>sylvestris</i>	454
<i>Physalodes physalodes</i>	638	<i>virginiana</i>	454
<i>Physocarpus opulifolius</i> var. <i>intermedia</i>	556	<i>Pinweed</i>	601
<i>Physostegia formosior</i>	632	<i>Pipe Vine</i>	525
<i>intermedia</i>	632	PIPERACEAE	511
<i>virginiana</i>	632	<i>Planer Tree</i>	522
<i>Phytolacea americana</i>	533	<i>Planera aquatica</i>	522
<i>decandra</i>	533	<i>Plantago aristata</i>	647
PHYTOLACCACEAE	533	<i>cordata</i>	647
<i>Pickerel-weed</i>	497	<i>elongata</i>	647
<i>Pieris Sprengeriana</i>	680	<i>heterophylla</i>	647
<i>Pigeon Berry</i>	613	<i>lanceolata</i>	647
<i>Pig-weed</i>	529, 532	<i>major</i>	647
<i>Spreading</i>	532	<i>media</i>	647
<i>Winged</i>	528	<i>Purshii</i>	647
<i>Pilea pumila</i>	524	<i>pusilla</i>	647
<i>Pimpernel</i>		<i>rhodosperma</i>	647
<i>False</i>	641	<i>Rugelii</i>	647
<i>Scarlet</i>	616	<i>spinulosa</i>	647
<i>Water</i>	615	<i>virginica</i>	647
<i>Yellow</i>	611	PLANTAGINACEAE	647
PINACEAE	454	<i>Plantain</i>	647
<i>Pine</i>		<i>Downy Rattlesnake</i>	510
<i>Austrian</i>	454	<i>Indian</i>	677
<i>Scotch</i>	454	<i>Mud</i>	498
<i>Serub</i>	454	<i>Robin's</i>	665
<i>Southern Yellow</i>	453	<i>Water</i>	457
<i>White</i>	454	PLATANACEAE	555
<i>Pine-weed</i>	600	<i>Platanus occidentalis</i>	555
<i>Pineapple Weed</i>	676	<i>occidentalis f. attenuata</i>	555
<i>Pinesap</i>	613	<i>occidentalis var. glabrata</i>	555
<i>Pink</i>		<i>Pluchea foetida</i>	665
<i>Deptford</i>	536	<i>petiolata</i>	665
<i>Fire</i>	536	<i>Plum</i>	
<i>Grass</i>	509	<i>Big Tree</i>	573
<i>Indian</i>	536	<i>Chickasaw</i>	572
<i>Maiden</i>	536	<i>Ground</i>	578
<i>Prairie</i>	618	<i>Wild</i>	573
<i>Rock</i>	537	<i>Wild Goose</i>	572
<i>Rose</i>	618	<i>Poa annua</i>	460
<i>Pink Needle</i>	586	<i>Chapmanniana</i>	460
<i>Pink-root</i>	618	<i>compressa</i>	460
<i>Pinus echinata</i>	453	<i>nemoralis</i>	460
<i>nigra</i>	454	<i>palustris</i>	460
		<i>pratensis</i>	460

Page	Page		
<i>sylvestris</i>	460	<i>coccineum</i> var. <i>pratincola</i>	527
<i>triflora</i>	460	<i>Convolvulus</i>	528
<i>Woldii</i>	460	<i>euphidatum</i>	528
<i>Podophyllum peltatum</i>	544	<i>densiflorum</i>	528
<i>Poet's Narcissus</i>	506	<i>erectum</i>	526
<i>Pogonia affinis</i>	509	<i>exsertum</i>	526
<i>trianthophora</i>	509	<i>Hydropiper</i> of auth.	527
<i>Poison Hemlock</i>	610	<i>Hydropiper</i> var. <i>projectum</i>	527
<i>Ivy</i>	591	<i>hydropiperoides</i>	527
<i>Oak</i>	591	<i>hydropiperoides</i> f. <i>strigosum</i>	528
<i>Pokeberry</i>	533	<i>hydropiperoides</i> var. <i>strigosum</i>	528
<i>Pokeweed</i>	533	<i>lapathifolium</i>	526
<i>Polanisia graveolens</i>	552	<i>lapathifolium</i> var. <i>nodosum</i>	526
<i>trachysperma</i>	552	<i>littorale</i> of auth.	526
<i>Pole-eat Bush</i>	591	<i>longistylum</i>	527
POLEMONIACEAE	625	<i>Muhlenbergia</i>	527
<i>Polemonium reptans</i>	626	<i>natans</i>	527
<i>Polycoodium interius</i>	614	<i>neglectum</i>	526
<i>neglectum</i>	614	<i>opelousanum</i>	528
<i>Polygala incarnata</i>	587	<i>orientale</i>	527
<i>sanguinea</i>	587	<i>pensylvanicum</i>	527
<i>Senega</i>	587	<i>pensylvanicum</i> var. <i>laevigatum</i>	527
<i>Senega</i> var. <i>latifolia</i>	587	<i>Persicaria</i>	527
<i>verticillata</i>	587	<i>prolificum</i>	526
<i>verticillata</i> var. <i>ambigua</i>	588	<i>punctatum</i>	527
<i>verticillata</i> var. <i>sphenostachya</i>	588	<i>ramosissimum</i>	526
POLYGALACEAE	587	<i>robustius</i>	527
POLYGONACEAE	525	<i>sagittatum</i>	528
<i>Polygonatum biflorum ovatum</i>	503	<i>scandens</i>	528
<i>canaliculatum</i>	503	<i>setaceum</i>	527
<i>canaliculatum</i> var. <i>ovatum</i>	503	<i>tenue</i>	526
<i>commutatum</i>	503	<i>triangulum</i>	526
<i>commutatum</i> <i>ovatum</i>	503	<i>virginianum</i>	528
<i>giganteum</i>	503	Polymnia canadensis	666
<i>ovatum</i>	503	<i>canadensis</i> var. <i>radiata</i>	666
<i>Polygonella americana</i>	528	<i>Uvedalia</i> var. <i>densipilia</i>	666
<i>Polygonum aehoreum</i>	526	<i>Uvedalia</i> var. <i>genuina</i>	666
<i>acre</i>	527	Polytaenia Nuttallii	611
<i>acre</i> var. <i>leptocephalum</i>	527	Polypremum procumbens	618
<i>amphibium</i> of Am. auth.	527	Polypterus callosa	675
<i>arifolium</i>	528	Pond-lily, yellow	538
<i>aviculare</i>	526	Pondweed	
<i>aviculare</i> var. <i>angustissimum</i>	526	<i>Fennel-leaved</i>	456
<i>aviculare</i> var. <i>littorale</i>	526	<i>Horned</i>	456
<i>aviculare</i> var. <i>vegetum</i>	526	<i>Large-leaved</i>	455
<i>buxiforme</i>	526	<i>Long-leaved</i>	455
<i>coccineum</i>	527	<i>Shining</i>	455

Page	Page		
Spotted	455	illinoensis	455
Pontederia cordata	497	lueens	455
PONTEDERIACEAE	497	natans	455
Poor Man's Weatherglass	616	panormitanus var. major	455
Poplar		panormitanus var. minor	456
Carolina	513	pectinatus	456
Downy	513	pulcher	455
Silver	513	rotundatus	456
Yellow	544	<i>Spirillus</i> of Am. auth.	456
Poppy		Potentilla arguta	566
Celandine	546	<i>canadensis</i> of auth.	566
Common	546	<i>canadensis</i> var. <i>simplex</i>	566
Corn	546	<i>canadensis</i> var. <i>vilosissima</i>	566
Mexican	546	<i>caroliniana</i>	566
Prickly	546	<i>monspeliensis</i>	566
Poppy Mallow	599	Niccolletii	566
Clustered	598	norvegica var. <i>hirsuta</i>	566
Fringed	599	paradoxa	566
Purple	598	recta	566
Populus alba	513	rivalis	566
<i>balsamifera</i>	513	rivalis var. <i>millegrana</i>	566
<i>balsamifera</i> var. <i>pilosa</i>	513	rivalis var. <i>pentandra</i>	566
canadensis var. <i>Eugenei</i>	513	<i>simplex</i>	566
deltoides	513	<i>simplex</i> of auth.	566
deltoides f. <i>pilosa</i>	513	<i>simplex</i> var. <i>argyrisma</i>	567
grandidentata	513	<i>simplex</i> var. <i>calvescens</i>	566
heterophylla	513	Poverty Grass	469
tremuloides	513	Branching	469
Porcupine Grass	469	Prairie Pink	618
Portulaca	538	Prenanthes alba	682
grandiflora	538	<i>altissima</i> var. <i>cinnamomea</i>	682
neglecta	538	<i>aspera</i>	682
oleracea	538	<i>crepidinea</i>	682
parvula	538	Prickly Pear	604
<i>pilosae</i>	538	Wild Lettuce	681
retusa	538	Primrose	
PORTULACACEAE	537	Evening	606
Possum Haw	591	Missouri	607
Potamogeton americanus	455	White Evening	607
amplifolius	455	Primrose-willow	605
erispus	455	Floating	605
dimorphus of Am. auth.	456	PRIMULACEAE	615
<div style="text-align: center;">diversifolius</div>	456	Prince's Feather	527, 532
foliosus	455	Privet, Swamp	618
foliosus var. <i>genuinus</i>	455	Proserpinaca palustris	608
foliosus var. <i>macellus</i>	455	<i>palustris</i> var. <i>amblyogona</i>	608
<i>hybridus</i> of Am. auth.	456	<i>palustris</i> var. <i>crebra</i>	608

Page	Page		
<i>Prunella vulgaris</i>	632	<i>Putty-root</i>	510
<i>vulgaris</i> var. <i>lanceolata</i>	632	<i>Pycnanthemum albescens</i>	635
<i>vulgaris</i> var. <i>lanceolata</i> f. <i>ioda-</i>		<i>flexuosum</i>	634
<i>calyx</i>	632	<i>ineanum</i>	635
<i>Prunus americana</i>	573	<i>muticum</i>	635
<i>angustifolia</i>	572	<i>pilosum</i>	635
<i>angustifolia</i> var. <i>varians</i>	572	<i>Torrei</i>	634
<i>arkansana</i>	573	<i>virginianum</i>	635
<i>Cerasus</i>	573	<i>Pyrrhopappus carolinianus</i>	632
<i>hortulana</i>	572	<i>Pyrus communis</i>	556
<i>hortulana</i> var. <i>pubens</i>	572	<i>coronaria</i>	557
<i>lanata</i>	573	<i>ioensis</i>	556
<i>Mahaleb</i>	573	<i>Malus</i>	556
<i>mexicana</i>	573	× <i>Soulardii</i>	557
<i>Munsoniana</i>	572		
<i>Palmeri</i>	573	Q	
<i>serotina</i>	572	<i>Queen Anne's Lace</i>	612
<i>spinosa</i>	573	<i>Quercus alba</i>	517
<i>virginiana</i>	572	<i>alba</i> f. <i>latiloba</i>	517
<i>Pedicularis quinquefolia</i>	595	<i>alba</i> var. <i>latiloba</i>	517
<i>quinquefolia</i> var. <i>hirsuta</i>	595	<i>Alexanderi</i>	518
<i>quinquefolia</i> var. <i>Saint-Paulii</i>	596	× <i>Bebbiana</i>	520
<i>vitacea</i>	596	<i>bicolor</i>	518
<i>Psoralea argophylla</i>	577	<i>borealis</i>	519
<i>esculenta</i>	577	<i>borealis</i> var. <i>maxima</i>	519
<i>floribunda</i>	577	× <i>Bushii</i>	520
<i>Onobrychis</i>	577	<i>coccinea</i>	519
<i>pedunculata</i>	577	<i>coccinea</i> var. <i>tuberculata</i>	519
<i>tenuiflora</i>	577	<i>ellipsoidalis</i>	519
<i>tenuiflora</i> var. <i>floribunda</i>	577	× <i>exacta</i>	520
<i>Ptelea trifoliata</i>	587	<i>falcata</i>	518
<i>Ptilimnium capillaceum</i>	610	<i>falcata</i> var. <i>leucophylla</i>	518
<i>Nuttallii</i>	610	<i>falcata</i> var. <i>pagodaefolia</i>	518
<i>Puccoon</i>		<i>falcata</i> f. <i>triloba</i>	518
<i>Orange</i>	628	× <i>Fernowii</i>	520
<i>Yellow</i>	628	× <i>heterophylla</i>	521
<i>Pumpkin</i>	653	× <i>Hillii</i>	519
<i>Purple</i>		<i>imbricaria</i>	520
<i>Love Grass</i>	461	× <i>inaequalis</i>	521
<i>Rocket</i>	551	× <i>Leana</i>	520
<i>Top</i>	462	<i>leiodermis</i>	520
<i>Purslane</i>	538	× <i>ludoviciana</i>	520
<i>Milk</i>	589	<i>lyrata</i>	517
<i>Notched</i>	538	<i>macrocarpa</i>	518
<i>Water</i>	604	<i>macrocarpa</i> var. <i>olivaeformis</i>	518
<i>Pursley</i>	538	<i>marilandica</i>	519
<i>Pussy's Toes</i>	665	<i>Michauxii</i>	518

	Page		Page
age		RANUNCULACEAE	539
510		<i>Ranunculus abortivus</i>	540
035		<i>aeris</i>	541
034		<i>aquatilis</i> var. <i>capillaceus</i>	539
635		<i>caricetorum</i>	540
635		<i>Cymbalaria f. hebecaulis</i>	539
635		<i>delphinifolius</i>	539
634		<i>delphinifolius</i> var. <i>terrestris</i>	539
635		<i>fascicularis</i>	540
682		<i>Harveyi</i>	540
556		<i>Harveyi f. pilosus</i>	540
557		<i>Harveyi</i> var. <i>pilosus</i>	540
556		<i>hispidus</i>	540
556		<i>hispidus</i> var. <i>falsus</i>	540
557		<i>laxicaulis</i>	539
612		<i>longirostris</i>	539
517		<i>mieranthus</i>	540
517		<i>oblongifolius</i>	539
517		<i>parviflorus</i>	541
517		<i>pusillus</i>	539
518		<i>recurvatus</i>	540
520		<i>repens</i>	540
518		<i>seeleratus</i>	539
519		<i>septentrionalis</i>	540
519		<i>sicaeformis</i>	540
520		<i>Raphanus sativus</i>	548
519		Raspberry	
519		Black	567
519		Red	567
520		Ratibida columnaris	670
518		<i>columnaris</i> f. <i>pelegrina</i>	670
518		<i>pinnata</i>	670
518		Rattle Weed	578
520		Rattle-box	575, 592
520		Rattlesnake Master	609
520		Rattlesnake Plantain	119
520		Downy	510
520		Rattlesnake-root	682
520		Red Top, Tall	462
520		Redbud	575
520		Red-root	567, 595
520		Reed	462
517		Giant	462
518		Reed Grass	
518		Long-leaved	465
519		Wood	466
518		Ragwort	
518		Golden	678
518		Prairie	678
518		Radish	548
520		Ragged Robin	679
520		Bagweed	668
517		Ragwort	
518		Golden	678
518		Prairie	678
518		Nasturtium-aquaticum	550
518		obtusa	550
520		palustris of Am. auth.	550
521		palustris var. <i>hispida</i>	550
519		sessiliflora	550
521		sinuata	550
520		sylvestris	550
520		Radish	548
520		Ragged Robin	679
520		Bagweed	668
517		Ragwort	
518		Golden	678
518		Prairie	678
518		Radicula aquatica	550
518		Armoracia	550
518		Nasturtium-aquaticum	550
518		obtusa	550
520		palustris of Am. auth.	550
521		palustris var. <i>hispida</i>	550
519		sessiliflora	550
521		sinuata	550
520		sylvestris	550
520		Radish	548
520		Ragged Robin	679
520		Bagweed	668
517		Ragwort	
518		Golden	678
518		Prairie	678
518		Radicula aquatica	550
518		Armoracia	550
518		Nasturtium-aquaticum	550
518		obtusa	550
520		palustris of Am. auth.	550
521		palustris var. <i>hispida</i>	550
519		sessiliflora	550
521		sinuata	550
520		sylvestris	550
520		Radish	548
520		Ragged Robin	679
520		Bagweed	668
517		Ragwort	
518		Golden	678
518		Prairie	678

	Page		Page
RHAMNACEAE	595	<i>hispida</i> var. <i>glabrata</i>	550
<i>Rhamnus caroliniana</i>	595	<i>Nasturtium-aquaticum</i>	550
<i>caroliniana</i> var. <i>mollis</i>	595	<i>obtusa</i>	550
<i>cathartica</i>	595	<i>sessiliflora</i>	550
<i>lanceolata</i>	595	<i>sinuata</i>	550
<i>Rhexia interior</i>	605	<i>sylvestris</i>	550
<i>latifolia</i>	605	<i>Rosa Aucuparia</i>	570
<i>marianna</i> var. <i>leiosperma</i>	605	<i>blanda</i>	570
<i>virginica</i>	605	<i>Bushii</i>	571
<i>Rhododendron nudiflorum</i>	613	<i>canina</i>	572
<i>nudiflorum</i> var. <i>roseum</i>	613	<i>carolina</i>	571
<i>Rhus canadensis</i>	591	<i>carolina</i> of auth.	571
<i>canadensis</i> var. <i>illinoensis</i>	591	<i>carolina</i> var. <i>glandulosa</i>	571
<i>canadensis</i> var. <i>serotina</i>	591	<i>carolina</i> var. <i>grandiflora</i>	571
<i>canadensis</i> var. <i>trilobata</i>	591	<i>carolina</i> var. <i>Lyoni</i>	571
<i>copallina</i>	591	<i>centifolia</i>	572
<i>cotinoides</i>	591	<i>conjuneta</i>	570
<i>glabra</i>	591	<i>dasisistema</i>	571
<i>quercifolia</i>	591	<i>Eglantaria</i>	572
<i>Toxicodendron</i>	591	<i>helophilis</i>	570
<i>trilobata</i>	591	<i>humilis</i>	571
<i>Rhynchosia latifolia</i>	584	<i>Lyoni</i>	571
<i>tomentosa</i>	584	<i>obovata</i>	571
<i>Rib Grass</i>	647	<i>Palmeri</i>	571
<i>Ribes aureum</i> of auth.	555	<i>palustris</i>	571
<i>Cynosbati</i>	555	<i>palustris</i> var. <i>dasisistema</i>	571
<i>gracile</i>	555	<i>petiolata</i>	571
<i>missouriense</i>	555	<i>polyanthema</i>	571
<i>odoratum</i>	555	<i>pratincola</i>	570
<i>Rice</i>	480	<i>relieta</i>	570
Black-seeded Mountain	469	<i>rubiginosa</i>	572
Indian	472	<i>rudiuscula</i>	570
Jungle	478	<i>rugosa</i>	572
Water	472	<i>serrulata</i>	571
<i>Richweed</i>	524	<i>setigera</i>	569
<i>Ricinus communis</i>	589	<i>setigera</i> f. <i>inermis</i>	569
<i>Robinia Pseudo-Acacia</i>	578	<i>setigera</i> var. <i>serena</i>	569
<i>Robin's Plantain</i>	665	<i>setigera</i> var. <i>tomentosa</i>	569
<i>Rock Pink</i>	537	<i>spinosissima</i>	572
<i>Rose</i>	601	<i>subserulata</i>	571
<i>Rocket</i>		<i>suffulta</i>	570
Purple	551	<i>suffulta</i> var. <i>valida</i>	570
Yellow	550	<i>virginiana</i> of auth. in part	571
<i>Rocky Mountain Bee-plant</i>	552	ROSACEAE	556
<i>Roripa aquatica</i>	550	<i>Rose</i>	
<i>Armoracia</i>	550	Climbing	569
<i>hispida</i>	550	Dog	572

	Page		Page	
age				
550				
550	German	624	<i>longipes</i>	669
550	Meadow	570	<i>maxima</i>	670
550	Pasture	571	<i>missouriensis</i>	669
550	Prairie	569	<i>palustris</i>	669
550	Swamp	571	<i>sericea</i>	669
550	Rose Moss	538	<i>speciosa</i>	669
570	Rose of Sharon	599	<i>subtomentosa</i>	669
570	Rose Pink	618	<i>subtomentosa</i> var. <i>Craigii</i>	669
571	Rosin-weed	667	<i>triloba</i>	669
572	Starry	667	Rue	587
571	<i>Rotala ramosior</i> of auth.	605	Early Meadow	541
571	<i>ramosior</i> var. <i>interior</i>	605	Gout's	578
571	<i>Rottboellia cylindrica</i>	480	Rue Anemone	541
571	RUBIACEAE	647	<i>Ruellia caroliniensis</i>	646
571	<i>Rubus abactus</i>	568	<i>caroliniensis</i> var. <i>parviflora</i>	646
572	<i>allegheniensis</i>	567	<i>ciliosa</i>	646
570	<i>alumnus</i>	567	<i>ciliosa</i> var. <i>parviflora</i>	646
571	<i>argutus</i> of auth.	567	<i>parviflora</i>	646
572	<i>Andrewsianus</i>	567	<i>pedunculata</i>	646
570	<i>Bushii</i>	568	Rumex Acetosella	526
571	<i>continentalis</i>	568	<i>altissimus</i>	525
571	<i>Deamii</i>	567	<i>Britannica</i>	525
571	<i>flagellaris</i>	568	<i>erispus</i>	525
571	<i>flagellaris</i> var. <i>occidualis</i>	568	<i>erispus</i> × <i>obtusifolius</i>	526
571	<i>frondosa</i>	568	<i>elongatus</i>	525
571	<i>heterophyllus</i>	568	<i>haastatus</i>	525
571	<i>idaeus</i> var. <i>aculeatissimus</i>	567	<i>maritimus</i> var. <i>fueginus</i>	525
571	<i>idaeus</i> var. <i>strigosus</i>	567	<i>mexicanus</i>	525
570	<i>invisus</i>	568	<i>obtusifolius</i>	525
572	<i>laciniatus</i>	568	<i>Patientia</i> var. <i>kurdieus</i>	525
570	<i>landatus</i>	567	<i>persicarooides</i>	525
572	<i>missouricus</i>	568	<i>sanguineus</i>	525
571	<i>nefrens</i>	568	<i>verticillatus</i>	525
569	<i>occidentalis</i>	567	Ruppia maritima var. <i>rostrata</i>	456
569	<i>ostryifolius</i>	567	Rush	498
569	<i>procera</i>	567	False Bog	486
569	<i>procumbens</i>	568	Horned	485
572	<i>recurvans</i>	568	Knotted	499
571	<i>rubrifolius</i>	568	Knotty-leaved	499
570	<i>trivialis</i>	568	Slender	498
570	<i>villosus</i>	568	Spike	482, 483
571	Rudbeckia amplexicaulis	670	Creeping	483
556	<i>fulgida</i>	669	Toad	498
569	<i>fulgida</i> of auth.	669	Russian Olive	604
571	<i>grandiflora</i>	669	Thistle	532
571	<i>hirta</i>	669	Ruta graveolens	587
572	<i>laciniata</i>	670	Rutabaga	549

	Page		Page
RUTACEAE	587	cordata	512
Rye.		cordata var. <i>angustata</i>	512
Italian	464	cordata × <i>humilis</i>	513
Perennial	464	cordata × <i>longipes</i> var. <i>Wardii</i>	513
Wild	463	cordata var. <i>myricoides</i>	512
Blue	463	cordata × <i>nigra</i>	513
Nodding	463	discolor	512
Rynchospora capillacea	486	fragilis	511
<i>capitellata</i>	486	humilis	512
<i>compressa</i>	486	humilis × <i>missouriensis</i>	513
<i>corniculata</i>	485	humilis var. <i>rigidiuscula</i>	512
<i>cymosa</i>	486	interior	511
<i>glomerata</i>	486	interior var. <i>Wheeleri</i>	512
<i>macrostachya</i>	486	longifolia	511
S			
Sabatia angularis	618	longipes var. <i>Wardii</i>	511
<i>campestris</i>	618	longipes var. <i>Wardii</i> × <i>nigra</i>	513
Sage, Blue	633	longipes var. <i>Wardii</i> × <i>sericea</i>	512
Wormwood	676	missouriensis	512
Sagina decumbens	534	myricoides	512
Sagittaria ambigua	456	nigra	511
<i>brevirostra</i>	456	petiolaris	512
<i>graminea</i>	457	purpurea	512
Grass-leaved	457	sericea	512
<i>heterophylla</i>	457	tristis	512
<i>heterophylla</i> var. <i>angustifolia</i>	457	Wardii	511
<i>heterophylla</i> var. <i>elliptica</i>	457	Salsify	680
<i>lancee-leaved</i>	456	Salsola Kali	532
<i>latifolia</i>	456	<i>Kali</i> var. <i>tenuifolia</i>	532
<i>latifolia</i> f. <i>obtusa</i>	456	Salt Grass	461
<i>longirostra</i>	456	Salt-and-pepper-plant	647
<i>platyphylla</i>	457	Salvia azurea var. <i>grandiflora</i>	633
St. Andrew's Cross	599	<i>lanceaeifolia</i>	633
St. John's-wort	599	<i>lyrata</i>	633
Dwarf	600	<i>Selarea</i>	633
Great	599	Sambucus canadensis	652
Shrubby	600	<i>canadensis</i> var. <i>submollis</i>	652
SALICACEAE	511	<i>pubens</i>	652
Salix alba	511	<i>racemosa</i> of auth.	652
<i>alba</i> var. <i>calva</i>	511	Samolus floribundus	615
<i>alba</i> var. <i>vitelina</i>	511	<i>parviflorus</i>	615
<i>amygdaloïdes</i>	511	Sand Dropseed	469
<i>amygdaloïdes</i> × <i>nigra</i>	513	<i>Grass</i>	462
<i>babylonica</i>	512	<i>Vine</i>	622
<i>coerulea</i>	511	Sand-burs	478
		<i>Sandwort</i>	535
		<i>Rock</i>	535
		<i>Thyme-leaved</i>	535

Page	Page		
Sanguinaria canadensis	545	<i>nanus</i>	483
canadensis var. rotundifolia	545	<i>occidentalis</i>	484
Saniula canadensis	609	<i>pallidus</i>	485
<i>gregaria</i>	609	<i>pedicellatus</i>	485
<i>Smallii</i>	609	<i>planifolius</i>	484
Santa Maria	667	<i>validus</i>	484
SANTALACEAE	524	Scleria ciliata	486
SAPINDACEAE	594	<i>Elliottii</i>	486
Sapindus Drummondii	594	<i>oligantha</i>	486
Seponaria officinalis	537	<i>pauciflora</i>	486
<i>Vaccaria</i>	537	<i>pauciflora</i> var. <i>caroliniana</i>	486
SAPOTACEAE	616	<i>reticularis</i> var. <i>pubescens</i>	486
Sassafras	545	<i>setacea</i>	486
<i>officinale</i>	545	<i>triglomerata</i>	486
<i>officinale</i> var. <i>albidum</i>	545	<i>verticillata</i>	486
<i>Sassafras</i>	545	Scorpion Grass	628
<i>variiifolium</i>	545	Serophularia lanceolata	639
Satureja glabra	634	<i>leptolella</i>	639
Saururus cernuus	511	<i>marilandica</i>	639
Savory	634	SCROPHULARIACEAE	638
Saxifraga Forbesii	553	Scutellaria Bushii	631
<i>pensylvanica</i> var. <i>Forbesii</i>	553	<i>canescens</i>	631
<i>texana</i>	553	<i>canescens</i> var. <i>punctata</i>	631
<i>virginicensis</i>	553	<i>cordifolia</i>	630
SAXIFRAGACEAE	553	<i>epilobifolia</i>	631
Saxifrage, Early	553	<i>galericulata</i> of Am. auth.	631
Seabish, False	674	<i>incana</i>	631
Seale		<i>lateriflora</i>	630
Red	531	<i>lateriflora</i> f. <i>rhodantha</i>	630
Silver	531	<i>montana</i>	631
Spear	531	<i>nervosa</i>	631
Schedonardus paniculatus	470	<i>ovalifolia</i>	631
Schmalzia serotina	591	<i>ovata</i>	630
Schranksia uncinata	573	<i>ovata</i> var. <i>bracteata</i>	630
Scilla biflora	502	<i>ovata</i> var. <i>pilosior</i>	630
Scirpus acutus	484	<i>parvula</i>	631
<i>americanus</i>	484	<i>parvula</i> var. <i>ambigua</i>	631
<i>atrovirens</i>	485	<i>pilosa</i>	631
<i>atrovirens</i> var. <i>georgianus</i>	485	<i>punctata</i>	631
<i>campestris</i>	485	<i>serrata</i>	631
<i>carinatus</i>	485	<i>versicolor</i>	630
<i>divaricatus</i>	485	<i>versicolor</i> var. <i>minor</i>	630
Eriophorum	485	Sea Blite	532
<i>fluvialis</i>	485	Secale cereale	480
<i>georgianus</i>	485	Sedge	
<i>lineatum</i>	485	Broom	479

Page		Page	
Fox	488	Sheep Sorrel	526, 585
Fringed	493	Sour	585
Hop	494	Shepherd's Purse	548
Straw	489	Shooting Star	616
Tussock	493	Shrubby Althea	598
Sedum Nevii	553	Sickle-pod	552
<i>Nuttallianum</i>	553	<i>Sicyos angulatus</i>	552
<i>pulellum</i>	553	<i>Sida Elliottii</i>	598
<i>purpureum</i>	553	<i>spinosa</i>	598
<i>ternatum</i>	553	<i>Silene antirrhina</i>	536
<i>trifolium</i>	553	<i>antirrhina</i> var. <i>divaricata</i>	536
Seed-box	606	<i>gallica</i>	536
Selenia aurea	551	<i>latifolia</i>	536
Self-heal	632	<i>nivea</i>	536
Seneea Snakeroot	587	<i>noctiflora</i>	536
Senecio aureus	578	<i>regia</i>	537
<i>aureus</i> × <i>Balsamitae</i>	678	<i>stellata</i>	537
<i>aureus</i> var. <i>gracilis</i>	678	<i>virginica</i>	536
<i>aureus</i> var. <i>semicordatus</i>	678	<i>Wherryi</i>	537
<i>Balsamitae</i>	678	<i>Wherryi</i> × <i>virginica</i>	537
<i>glaebellus</i>	677	<i>Silphium Asteriscus</i>	667
<i>obovatus</i>	677	<i>integrifolium</i>	667
<i>obovatus</i> var. <i>rotundus</i>	678	<i>laciniatum</i>	666
<i>obovatus</i> var. <i>umbratilis</i>	678	<i>perfoliatum</i>	667
<i>pauperculus</i>	678	<i>terebinthinaceum</i>	667
<i>pauperculus</i> var. <i>Balsamitae</i>	678	SIMARUBACEAE	587
<i>plattensis</i>	678	<i>Sisymbrium altissimum</i>	549
<i>pseudotomentosus</i>	678	<i>canescens</i>	549
Sensitive Brier	573	<i>canescens</i> var. <i>brachycarpus</i>	549
Sensitive Plant, False	573	<i>incisum</i>	549
Serapias Helleborine	509	<i>Nasturtium-aquaticum</i>	550
Serinia oppositifolia	679	<i>officinale</i>	549
Service Berry	557	<i>officinale</i> var. <i>leiocarpum</i>	549
Sesamum indicum	645	<i>Sophia</i>	549
<i>orientale</i>	645	<i>Thalianum</i>	549
Sebania macrocarpa	578	<i>Sisyrinchium albidum</i>	508
Setaria geniculata	478	<i>angustifolium</i>	508
<i>glauca</i>	478	<i>campestre</i>	508
<i>imberbis</i>	478	<i>campestre</i> var. <i>kansanum</i>	508
<i>italica</i>	478	<i>flaviflorum</i>	508
<i>italica</i> var. <i>germanica</i>	478	<i>gramineum</i>	508
<i>lutescens</i>	478	<i>graminoides</i>	508
<i>verticillata</i>	478	<i>Sitanion elymoides</i>	464
<i>viridis</i>	478	<i>hystrix</i>	464
Seymeria macrophylla	642	<i>longifolium</i>	464
Shad Bush	557	<i>Sium cicutae folium</i>	610
		<i>suave</i>	610

	Page		Page
Skullcap, Mad-dog	630	glaberrima var. <i>moritura</i>	660
Sleepy Catchfly	536	<i>graminifolia</i>	661
Slough Grass	471	<i>gymnospermooides</i>	661
Smartweed	527	<i>hispida</i>	659
Smilax <i>Bona-nox</i>	506	<i>junccea</i>	659
<i>ceirrhata</i>	505	<i>junccea</i> var. <i>scabrella</i>	659
<i>glauea</i> var. <i>genuina</i>	506	<i>latifolia</i>	658
<i>glauea</i> var. <i>leurophylla</i>	506	<i>leptocephala</i>	661
<i>herbacea</i>	505	<i>Lindheimeriana</i>	659
<i>herbacea</i> var. <i>lasiioneuron</i>	505	<i>longipetiolata</i>	660
<i>herbacea</i> var. <i>pulverulenta</i>	505	<i>microphylla</i>	659
<i>hispida</i>	506	<i>missouriensis</i> of auth.	660
<i>rotundifolia</i> var. <i>quadrangularis</i>	506	<i>moritura</i>	660
Smilacina racemosa	503	<i>nemoralis</i>	660
<i>stellata</i>	503	<i>nemoralis</i> var. <i>longipetiolata</i>	660
Smoke Tree	591	<i>odora</i>	659
Snakeroot		<i>patula</i>	659
Black	543, 609	<i>petiolaris</i>	658
Button	609	<i>petiolaris</i> var. <i>Wardii</i>	658
Seneca	587	<i>radula</i>	660
Virginia	524	<i>rigida</i>	661
White	656, 682	<i>rugosa</i>	660
Sneezeweed	675	<i>rugosa</i> var. <i>aspera</i>	660
Snow-on-the-mountain	590	<i>serotina</i>	660
Soapberry	594	<i>serotina</i> var. <i>gigantea</i>	661
Soapwort	537	<i>speciosa</i>	659
SOLANACEAE	636	<i>speciosa</i> var. <i>angustata</i>	659
Solanum carolinense	636	<i>suaveoleens</i>	659
<i>Duleamara</i>	636	<i>ulmifolia</i>	659
<i>eleagnifolium</i>	636	Solomon's Seal	
<i>nigrum</i>	636	False	503
<i>rostratum</i>	637	Large	503
Torreyi	637	Sonchus arvensis	681
<i>triforum</i>	636	asper	681
Solidago altissima	660	<i>oleraceus</i>	681
<i>altissima</i> var. <i>procera</i>	660	Sophia <i>brachycarpa</i>	549
<i>arguta</i>	659	<i>pinnata</i>	549
<i>arguta</i> var. <i>Boottii</i>	659	<i>Sophia</i>	549
<i>aspera</i>	660	Sorghastrum <i>nutans</i>	480
<i>Boottii</i>	659	Sorghum Cane	480
<i>caesia</i>	658	<i>halepense</i>	480
<i>canadensis</i>	660	<i>vulgare</i>	480
<i>canadensis</i> var. <i>gilvacanescens</i>	660	Sorrell	
<i>Drummondii</i>	661	Lady's	585
<i>Gattingeri</i>	660	Sheep	585
<i>glaberrima</i>	660	Wood	585

	Page		Page
Sow Thistle	681	Spiraea alba	556
Spanish Bayonet	502	<i>salicifolia</i> of auth.	556
Needles	674	<i>tomentosa</i> var. <i>rosea</i>	556
SPARGANIACEAE	454	Spiranthes Beckii	509
Sparganium americanum	454	<i>cernua</i>	510
<i>americanum</i> var. <i>androcladum</i>	454	<i>cernua</i> var. <i>ochroleuca</i>	510
<i>androcladum</i>	455	<i>gracilis</i>	509
<i>androcladum</i> of auth.	454	<i>lucida</i>	510
euryearpum	454	<i>ovalis</i>	510
<i>lucidum</i>	455	<i>vernalis</i>	510
<i>simplex</i> var. <i>androcladum</i>	454	Spirodela oligorhiza	495
Spartina <i>Michauxiana</i>	471	<i>polyrhiza</i>	495
<i>pectinata</i>	471	Sporobolus <i>airoides</i>	469
<i>pectinata</i> var. <i>Suttiei</i>	471	<i>argutus</i>	469
Spatter Dock	538	<i>asper</i>	468
Spearmint	636	<i>asper</i> var. <i>Hookeri</i>	468
Spearwort	539	<i>asper</i> var. <i>pilosus</i>	468
Water Plantain	539	<i>asperifolius</i>	467
Specularia biflora	653	<i>attenuatus</i>	468
<i>leptocarpa</i>	653	<i>Berteroanus</i>	468
<i>perfoliata</i>	653	<i>brevifolius</i>	466
Speedwell		<i>canoviensis</i>	468
Corn	642	<i>clandestinus</i>	468
Thyme-leaved	642	<i>cryptandrus</i>	469
Water	642	<i>Drummondii</i>	468
Spergula arvensis	534	<i>heterolepis</i>	468
Spermacoce glabra	648	<i>indicus</i> of auth.	468
Spermolepis echinata	610	<i>neglectus</i>	468
<i>patens</i>	610	<i>ozarkanus</i>	468
Sphenopholis intermedia	465	<i>pilosus</i>	468
<i>nitida</i>	465	<i>Poiretii</i>	468
<i>obtusata</i>	464	<i>vaginiflorus</i>	468
<i>obtusata</i> var. <i>lobata</i>	465	Spotted Cowbane	610
<i>obtusata</i> var. <i>pubescens</i>	464	Sprangle Top, Red	470
<i>pallens</i>	464	Spring Beauty	537
Spice Bush	545	Spurge	
Spider-flower	552	Cypress	590
Spider-lily	506	Flowering	590
Spiderwort	496	Nodding	589
Spigelia marilandica	618	Prairie	580
Spike Rush	482, 483	Warty	590
Creeping	483	Squaw-weed	677
Spikenard		Squirrel Corn	546
American	609	Squirrel-tail Grass	464
False	502	Stachys ambigua	633
Spilanthes americana var. <i>repens</i> . .	670	aspera	632
		<i>aspera</i> of auth.	633

	Page		Page
<i>hispida</i>	633	<i>Indian</i>	566
<i>palustris</i>	633	<i>Wild</i>	565
<i>palustris</i> of auth.	633	<i>Strawberry Blite</i>	529
<i>tenuifolia</i>	632	<i>Strawberry Bush</i>	592
<i>tenuifolia</i> var. <i>aspera</i>	633	<i>Running</i>	592
Staff-tree	414	<i>Strawberry Tomato</i>	637
<i>Staphylea trifolia</i>	592	<i>Stretch-berry</i>	506
STAPHYLEACEAE	592	<i>Strophostyles helvola</i>	584
Star-grass, Yellow	507	<i>helvola</i> var. <i>missouriensis</i>	584
Star of Bethlehem	502	<i>pauciflora</i>	584
Starry Rosin-weed	667	<i>umbellata</i>	584
Starwort		<i>Stylophorum diphyllum</i>	546
False	661	<i>Stylosanthes biflora</i>	582
Water	590	<i>biflora</i> var. <i>hispidissima</i>	583
<i>Steinchisma hians</i>	477	STYRACACEAE	617
Steironema ciliatum	615	<i>Styrax americana</i>	617
<i>lanceolatum</i>	615	<i>Suaeda depressa</i>	532
<i>lanceolatum</i> var. <i>angustifolium</i>	615	<i>Sugarberry</i>	522
<i>lanceolatum</i> var. <i>hybridum</i>	616	<i>Sullivantia renifolia</i>	553
<i>quadriflorum</i>	616	<i>Sullivantii</i> of auth.	553
<i>radicans</i>	615	Sumach	
Stellaria graminea	535	<i>Fragrant</i>	591
<i>longifolia</i>	535	<i>Smooth</i>	591
<i>media</i>	535	Sundrops	606, 607
<i>pubera</i> var. <i>silvatica</i>	535	<i>Sunflower</i>	670
Stenanthium gramineum	500	<i>Kansas</i>	670
<i>gramineum</i> f. <i>robustum</i>	500	<i>Prairie</i>	670
<i>robustum</i>	500	<i>Small Woods</i>	671
Stenophyllum capillaris	483	<i>Supple-Jack</i>	595
<i>capillaris</i> var. <i>cryptostachys</i>	484	<i>Swamp Privet</i>	618
Stenosiphon linifolius	608	<i>Sweet-brier</i>	572
Stick Leaf	604	<i>Sweet</i>	
Stickseed	628	<i>Cicely</i>	610
Stickweed	628	<i>Smooth</i>	610
Sticktight	674	<i>Woolly</i>	610
Stipa spartea	469	Flag	495
Stitchwort		Gum	555
Long-leaved	535	Vernal Grass	471
Narrow-leaved	535	William	536, 625
Stonecrop, Ditch	552	Switch Cane	458
Yellow-flowered	553	Sycamore	555
Storax, Smooth	617	<i>Symporicarpus occidentalis</i>	650
Storksbill	586	<i>orbiculatus</i>	650
Straw-flower	501	<i>Sympodium officinale</i>	628
Strawberry		<i>Syntherisma linearis</i>	472
Garden	566	<i>marginata</i>	472

T	Page	Page	
<i>Taenidia integriflora</i>	611	Russian	532
<i>Tagetes erecta</i>	675	Scotch	679
<i>Talinum calycinum</i>	537	Swamp	679
<i>parviflorum</i>	537	<i>Thlaspi arvense</i>	547
TAMARICACEAE	600	<i>perfoliatum</i>	547
<i>Tamarisk</i>	600	Thorn, Coekspur	557
<i>Tamarix gallica</i>	600	Washington	504
<i>Tanacetum vulgare</i>	676	Thorn Apple, Purple	638
<i>vulgare</i> var. <i>crispum</i>	676	Thorough-wax	610
<i>Tansy</i>	676	Thoroughwort	656
<i>Taraxacum erythrospermum</i>	680	Three-square	484
<i>laevigatum</i>	680	THYMELAEACEAE	604
<i>officinale</i>	680	Tickseed	
<i>palustre</i> var. <i>vulgare</i>	680	Star	673
<i>Tassel Flower</i>	656	Tall	673
<i>Red</i>	577	Tickseed Coreopsis	673
<i>White</i>	578	<i>Tilia americana</i>	597
<i>Taxodium distichum</i>	454	<i>floridana</i>	597
Tear-thumb		<i>floridana</i> var. <i>hypoleuca</i>	597
<i>Arrow-leaved</i>	528	<i>glabra</i>	597
<i>Halberd-leaved</i>	528	<i>heterophylla</i> var. <i>Michauxii</i>	597
<i>Tear Blanket</i>	608	<i>Michauxii</i>	597
<i>Teasel</i>	652	TILIACEAE	597
<i>Tecoma radicans</i>	645	Timothy	466
<i>Tephrosia virginiana</i>	578	<i>Tithymalus arkansanus</i>	590
<i>virginiana</i> var. <i>holosericea</i>	578	<i>missouriensis</i>	590
<i>Teucrium canadense</i> of auth.	630	Toadflax, Blue	639
<i>canadense</i> var. <i>virginicum</i>	630	Tobacco	
<i>occidentale</i>	630	Indian	654
<i>Thalia dealbata</i>	508	Ladies'	638
<i>Thalictrum dasycarpum</i>	541	Wild	666
<i>dioicum</i>	541	Tomatillo	637
<i>revolutum</i>	541	Tomato	638
<i>Thaumium aureum</i> of auth.	611	Strawberry	637
<i>barbinode</i>	611	Tonguegrass	548
<i>trifoliatum</i>	611	Tooth-cup	605
<i>trifoliatum</i> var. <i>flavum</i>	611	Toothwort	551
<i>Thelesperma gracile</i>	674	Torilis Anthriscus	612
<i>trifidum</i>	674	Touch-me-not	
<i>Thimbleweed</i>	542	Pale-flowered	594
Thistle		Spotted-flowered	595
<i>Barnaby's</i>	679	<i>Toxicoscordion Nuttallii</i>	500
<i>Bull</i>	678	Trachelospermum difforme	621
<i>Canada</i>	679	Tradescantia bracteata	496
<i>Cotton</i>	679	<i>brevicaulis</i>	496
<i>Curly</i>	678	<i>canaliculata</i>	496
		<i>Ernestiana</i>	496

	Page		Page
<i>longipes</i>	496	<i>recurvatum f. luteum</i>	504
<i>ozarkana</i>	496	<i>recurvatum f. Shayi</i>	504
<i>pilosa</i>	496	<i>sessile</i>	503
<i>reflexa</i>	496	<i>sessile f. luteum</i>	503
<i>subaspera</i>	496	<i>sessile viridiflorum</i>	503
<i>Tharpii</i>	496	<i>texanum</i>	505
<i>virginiana</i>	496	<i>viride</i>	503
<i>Tragia cordata</i>	589	<i>viridescens</i>	503
<i>macrocarpa</i>	589	<i>Triodia elongata</i>	462
<i>nepetaefolia</i>	589	<i>flava</i>	462
<i>ramosa</i>	589	<i>stricta</i>	462
<i>urticacefolia</i>	589	<i>Triosteum angustifolium</i>	651
<i>Tragopogon porrifolius</i>	680	<i>aurantiacum</i> var. <i>illinoense</i>	651
<i>pratinus</i>	680	<i>illinoense</i>	651
<i>Trautvetteria carolinensis</i>	541	<i>perfoliatum</i>	650
<i>Tree of Heaven</i>	587	<i>perfoliatum</i> var. <i>illinoense</i>	651
<i>Trefoil</i>		<i>Triplasis purpurea</i>	462
<i>Prairie</i>	576	<i>Triple-awned Grass</i>	469
<i>Tick</i>	579	<i>Trisetum flavescens</i>	465
<i>Tribulus terrestris</i>	586	<i>Triticum Aegilops</i>	463
<i>Trichostema dichotomum</i>	630	<i>aestivum</i>	480
<i>Tricuspidia elongata</i>	462	<i>cylindricum</i>	463
<i>flava</i>	462	<i>Trumpet Creeper</i>	645
<i>stricta</i>	462	<i>Trumpet-vine</i>	645
<i>Tridens elongatus</i>	462	<i>Tulip Tree</i>	544
<i>flavus</i>	462	<i>Tumble Grass</i>	470
<i>strictus</i>	462	<i>Tumble-weed</i>	532
<i>Trifolium agrarium</i>	576	<i>Tupelo</i>	613
<i>arvense</i>	575	<i>Turkey Apple</i>	563
<i>carolinianum</i>	576	<i>Turkeyfoot, Blue-joint</i>	479
<i>dubium</i>	576	<i>Turnip</i>	
<i>hybridum</i>	576	<i>Indian</i>	495
<i>inernatum</i>	575	<i>Prairie</i>	577
<i>pratense</i>	575	<i>Turtlehead</i>	640
<i>procumbens</i>	576	<i>Twayblade, Large</i>	510
<i>reflexum</i>	575	<i>Typha angustifolia</i>	454
<i>reflexum</i> var. <i>glabrum</i>	576	<i>latifolia</i>	454
<i>repens</i>	576	<i>TYPHACEAE</i>	454
<i>resupinatum</i>	576		
<i>stoloniferum</i>	576	U	
<i>Trillium declinatum</i>	504	<i>ULMACEAE</i>	522
<i>Gleasoni</i>	504	<i>Ulmus alata</i>	522
<i>nivale</i>	505	<i>americana</i>	522
<i>ozarkanum</i>	504	<i>fulva</i>	522
<i>pusillum</i>	505	<i>racemosa</i>	522
<i>recurvatum</i>	503	<i>Thomasi</i>	522

	Page		Page
UMBELLIFERAE	609	Verbena	Page
Umbrella Grass	485	<i>angustifolia</i>	629
Umbrella-wort	533	<i>bipinnatifida</i>	629
Unicorn Plant	646	<i>bracteata</i>	629
Uniola latifolia	462	<i>bracteata</i> × <i>stricta</i>	629
Upland Boneset	656	<i>bracteosa</i>	629
Urtica chamaedryoides	524	<i>canadensis</i>	629
<i>gracilis</i>	524	<i>hastata</i>	629
<i>procera</i>	524	<i>simplex</i>	629
<i>urens</i>	524	<i>simplex</i> × <i>stricta</i>	629
URTICACEAE	524	<i>stricta</i>	629
Utricularia biflora	645	<i>urticifolia</i>	629
<i>gibba</i>	645	Wild	629
<i>minor</i>	645	VERBENACEAE	629
<i>pumila</i>	645	Verbesina encelioides var. <i>exauricu-</i>	
<i>vulgaris</i> var. <i>americana</i>	644	<i>lata</i>	672
Uvularia grandiflora	501	<i>helianthoides</i>	672
<i>perfoliata</i>	501	<i>virginica</i>	672
V			
Vaccinium arboreum	614	Vernonia altissima	654
<i>arboreum</i> var. <i>glaucescens</i>	614	<i>altissima</i> × <i>crinita</i>	655
<i>melanoearpum</i>	614	<i>altissima</i> × <i>missurica</i>	655
<i>missouriense</i>	614	<i>altissima</i> var. <i>taeniotricha</i>	654
<i>neglectum</i>	614	Baldwini	654
<i>stamineum</i>	614	Baldwini × <i>crinita</i>	655
<i>stamineum</i> var. <i>interius</i>	614	Baldwini var. <i>parthenoides</i>	654
<i>stamineum</i> var. <i>neglectum</i>	614	crinita	654
<i>vacillans</i>	614	erinita × <i>fasciculata</i>	655
<i>vacillans</i> var. <i>crinitum</i>	614	erinita × <i>interior</i>	655
<i>virgatum</i> var. <i>tenellum</i>	614	erinita × <i>missurica</i>	655
VALERIANACEAE	652	<i>fasciculata</i>	654
Valerianella longiflora	652	<i>fasciculata</i> × <i>interior</i>	655
<i>radiata</i>	652	<i>illinoensis</i>	654
<i>radiata</i> var. <i>leiocarpa</i>	652	interior	655
<i>stenocephala</i>	652	interior × <i>missurica</i>	655
Vallisneria americana	457	interior var. <i>Drummondii</i>	655
<i>spiralis</i>	457	<i>missurica</i>	654
Vegetable Oyster	680	Veronica americana	642
Velvet Grass	465	<i>Anagallis-aquatica</i> of auth. in	
Leaf	598	part	642
Venus's Looking-glass	653	<i>arvensis</i>	642
Veratrum Woodii	501	<i>connata</i>	642
Verbascum Blattaria	639	<i>peregrina</i>	642
Blattaria f. <i>albiflorum</i>	639	<i>peregrina</i> var. <i>xalapensis</i>	642
Thapsus	638	<i>serpyllifolia</i>	642
		<i>virginica</i>	641
		<i>Veronicastrum virginicum</i>	641
		<i>virginicum</i> f. <i>villosa</i>	641

Page	Page	
Vervain	papilionacea	601
Blue	papilionacea × pedatifida	603
White	papilionacea × sororia	603
Vetch	papilionacea × triloba	603
Bushy	pedata	601
Crown	pedata var. lineariloba	601
Spring	pedatifida	602
Winter	pedatifida × sagittata	603
Viburnum affine	pedatifida × sororia	603
affine var. hypomalacum	pratincola	601
Bushii	pubescens	603
Lentago	Rafinesquii	603
molle	sagittata	602
molle f. leiophyllum	sagittata × sororia	603
prunifolium	scabriuscula	603
prunifolium var. Bushii	sororia	602
pubescens of auth.	sororia × triloba	603
pubescens var. Deamii	striata	603
rafidulum	subsagittata	602
Vicia americana	triloba	602
angustifolia	VIOLACEAE	601
caroliniana	Violet	
ludoviciana	Bird-foot	601
mierantha	Dog-tooth	
sativa	Prairie	502
tetrasperma	White	502
villosa	Yellow	502
Vigna sinensis	Green	601
Vinea minor	Narrow-leaved	602
Vinectoxicum Baldwinianum	Northern White	602
carolinense	Pale	603
gonocarpos	Prairie	602
obliquum	Star	649
Vine Mesquite	Water	615
Viola arvensis	Yellow	603
eucullata	Viorna Pitcheri	542
emarginata	Virginia Cowslip	628
emarginata × sororia	Creeper	595
eriocarpa	Snakeroot	524
eriocarpa var. leiocarpa	Willow	554
fimbriatula	Virgin's Bower	542
lanecolata	VITACEAE	595
Lovelliana	Vitis aestivalis	596
missouriensis	bicolor	596
missouriensis × sororia	cinerea	596
pallens		
palmata		

Page	Page		
cinerea var. canescens	596	Watermelon	633
cordifolia	596	Water-shield	539
cordifolia var. foetida	597	Carolina	539
labrusca	596	Water-weed	457
Leeontiana	596	Waterwort	600
Lineecumii var. glauca	596	Wheat	490
palmata	597	Whitlow Grass	547
rotundifolia	597	Widow's Cross	553
rupestris	597	Wild Balsam-apple	653
rupestris var. dissecta	597	Bean	584
vulpina	597	Bergamot	633
vulpina var. praecox	596	Blue Flag	507
W			
Wahoo	592	Chamomile	676
Wake-Robin	503	Cherry	572
Snowy	505	Chervil	609
Waldsteinia fragarioides	565	Chess	459
Wall-flower, Western	549	China Tree	594
Walnut, Black	514	Columbine	542
Washington Thorn	564	Comfrey	627
Water Chinquapin	538	Crab-apple	556
Crowfoot, White	539	Cucumber Vine	653
Elm	522	Four-o'clock	533
Feather	608	Garlic	501
Hemp	532, 533	Geranium	586
Horehound	635	Ginger	524
Hyacinth	497	Goose Plum	572
Hysop	641	Gooseberry	555
Locust	574	Gourd	659
Marigold	674	Honeysuckle	613
Milfoil	608	Hyacinth	502
Oak	519	Hydrangea	554
Parsley	610	Leek	501
Pepper	527	Lettuce, Prickly	681
Pimpernel	615	Licorice	648
Plantain	457	Liquorice	579
Purslane	604	Madder	648
Speedwell	642	Mustard	548
Star-grass	498	Oats	501
Starwort	590	Onion	501
Violet	615	Pansy	603
Willow	646	Petunia	646
Water-leaf	626	Plum	573
Water-lily	538	Rye	463
Sweet-scented	538	Strawberry	565
Tuberous	538	Sweet William	685
		Tobacco	666
		Verbena	659

Page	Page		
Wormwood	676	chinense \times pennsylvanicum	669
Yam	506	commune	668
Willow		echinatum	668
Black	511	glanduliferum	668
Brittle	511	globosum	668
Crack	511	inflexum	668
Dwarf Gray	512	italicum	668
Dwarf Pussy	512	italicum \times pennsylvanicum	669
Heart-leaved	512	pennsylvanicum	668
Peach-leaved	511	speciosum	668
Prairie	512	spinulosum	668
Purple	512	Xanthozalis Bushii	585
Pussy	512	corniculata	585
Sand-bar	511	cymosa	585
Silky	512	interior	585
Virginia	554	ZYRIDACEAE	497
Ward's	511	Xyris flexuosa	497
Water	646	Y	
Weeping	512	Yam, Wild	506
White	511	Yanquapin	538
Willow Herb	606	Yard Grass	470
Windmill Grass	471	Yarrow	675
Wine Cups	598	Yellow Wood	575
Winter-berry	592	Yellow-flowered Stonecrop	553
Wisteria frutescens	578	Yellow Rocket	550
macrostachya	578	Yellow-root	544
Witch-hazel	555	Yucca arkansana	502
Ozark	555	filamentosa	502
Wolfberry	650	glauea	502
Wolfia columbiana	495	Z	
papulifera	495	Zannichellia palustris	456
Wolfella floridana	496	Zanthoxylum americanum	587
Wood Angelica	612	Zea Mays	480
Betony	644	Zigadenus chloranthus	500
Nettle	524	elegans	500
Reed Grass	466	glaucus	500
Woollen Breeches	626	Nuttallii	500
Wormwood	676	Zizania aquatica var. interior	472
Roman	668	Zizaniopsis miliacea	472
Wild	676	Zizia aurea	610
Wormwood Sage	676	cordata	611
X		ZYGOPHYLLACEAE	586
Xanthium acerosum	668		
canadense	669		
chinense	668		

EXPLANATION OF PLATE

PLATE 15

Fig. 1. St. Francis River, Wayne Co., showing gravel bars typical of many Ozark streams, and deciduous oak-hickory forest on granitic substratum.

Fig. 2. Dolomite bluffs of the White River, Barry Co., with *Juniperus mexicana* near top and rich talus slope below.

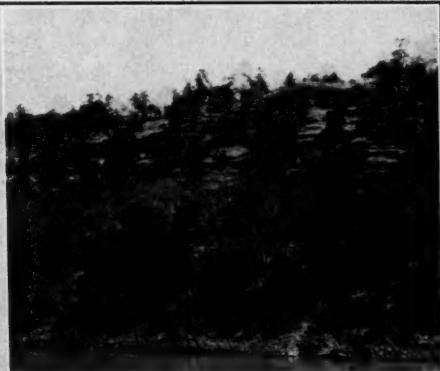
Fig. 3. Mississippian limestone with interbedded chert, the latter producing acid soils when left as a surface deposit after erosion and solution of the limestone, Jasper Co.

Fig. 4. Erosion in loess, Clark Co.

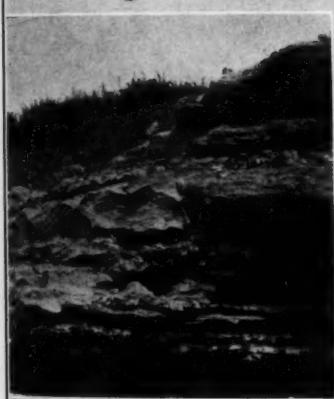
Fig. 5. Porphyry "shut-in" along Little St. Francis River, Madison Co., showing *Pinus echinata* along stream course.



1



2



3



4



5

PALMER & STEYERMARK—PLANTS OF MISSOURI



EXPLANATION OF PLATE

PLATE 16

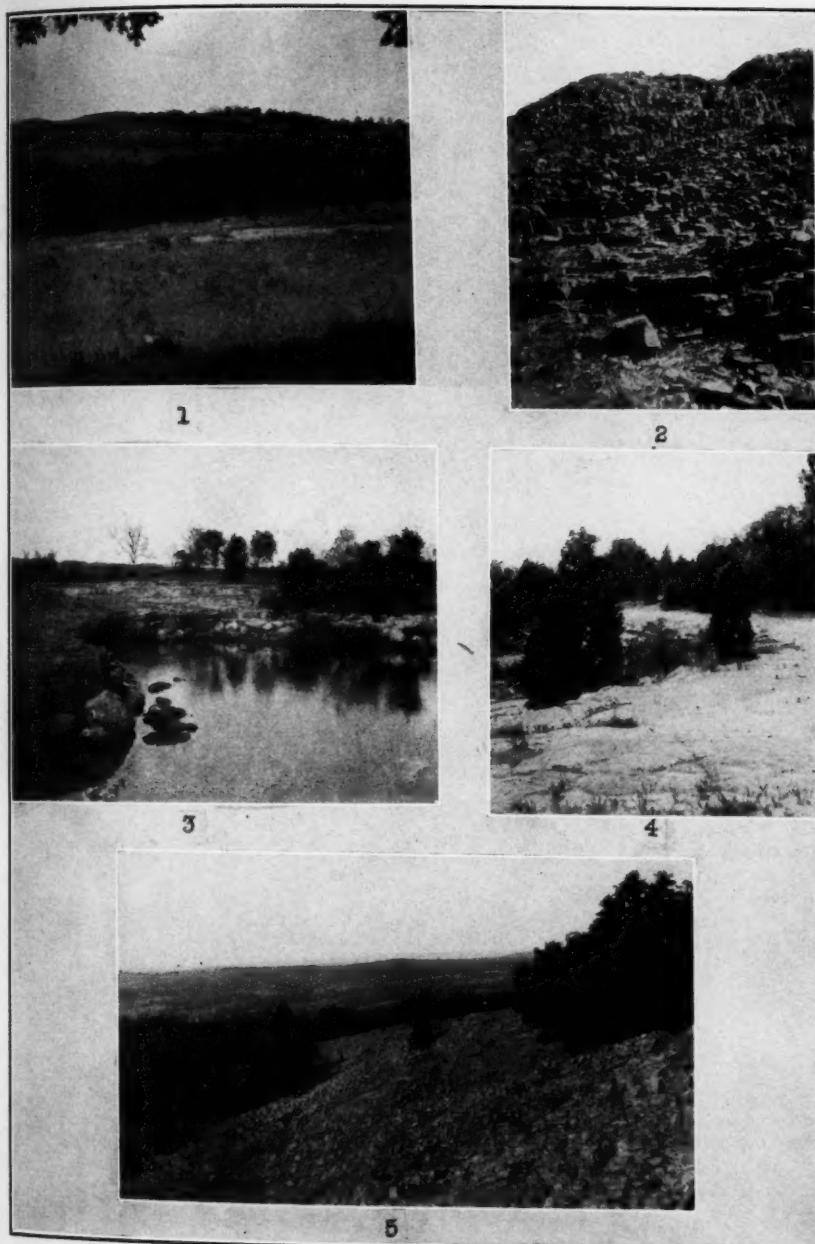
Fig. 1. Bald knobs, Ozark Co., showing the advance of the forest upon the glades.

Fig. 2. Porphyritic trachyte glade, summit of Hughes Mountain, St. Francois Co., showing weathering of the formation into block-like structures.

Fig. 3. Grand Falls chert glades, Newton Co., habitat of several southwestern species not found elsewhere in the state.

Fig. 4. St. Peter sandstone glade with *Juniperus virginiana* and deciduous forest along margin, Jefferson Co.

Fig. 5. Porphyritic trachyte glade, typical of the Iron Mountain area in the eastern Ozarks, Hughes Mountain, St. Francois Co.



PALMER & STEYERMARK—PLANTS OF MISSOURI





EXPLANATION OF PLATE

PLATE 17

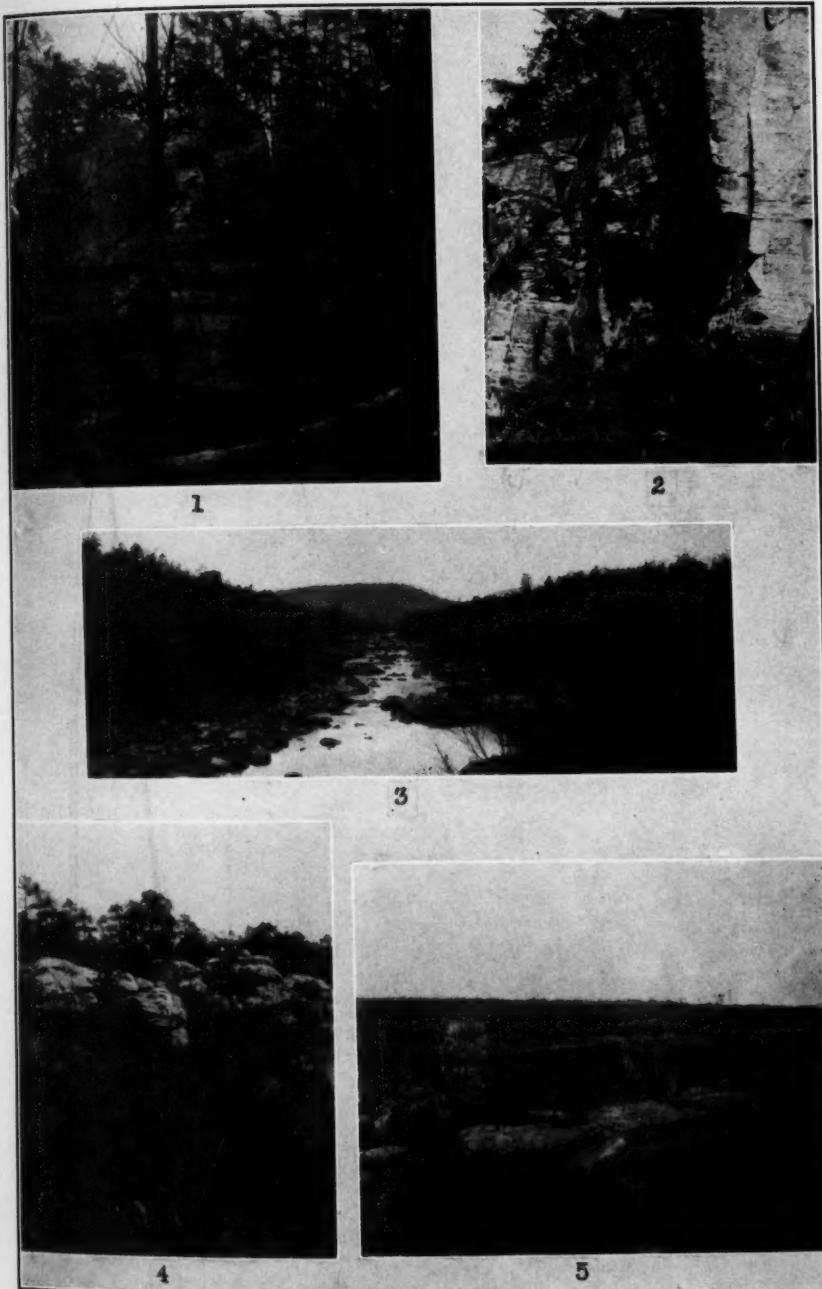
Fig. 1. La Motte sandstone bluff in wooded ravine, Ste. Genevieve Co., western limit of a number of eastern and Appalachian species.

Fig. 2. St. Peter sandstone bluff with slough at base, Jefferson Co.

Fig. 3. Porphyritic trachyte "shut-in" along Little St. Francis River, Madison Co., with forest of *Pinus echinata* on slopes.

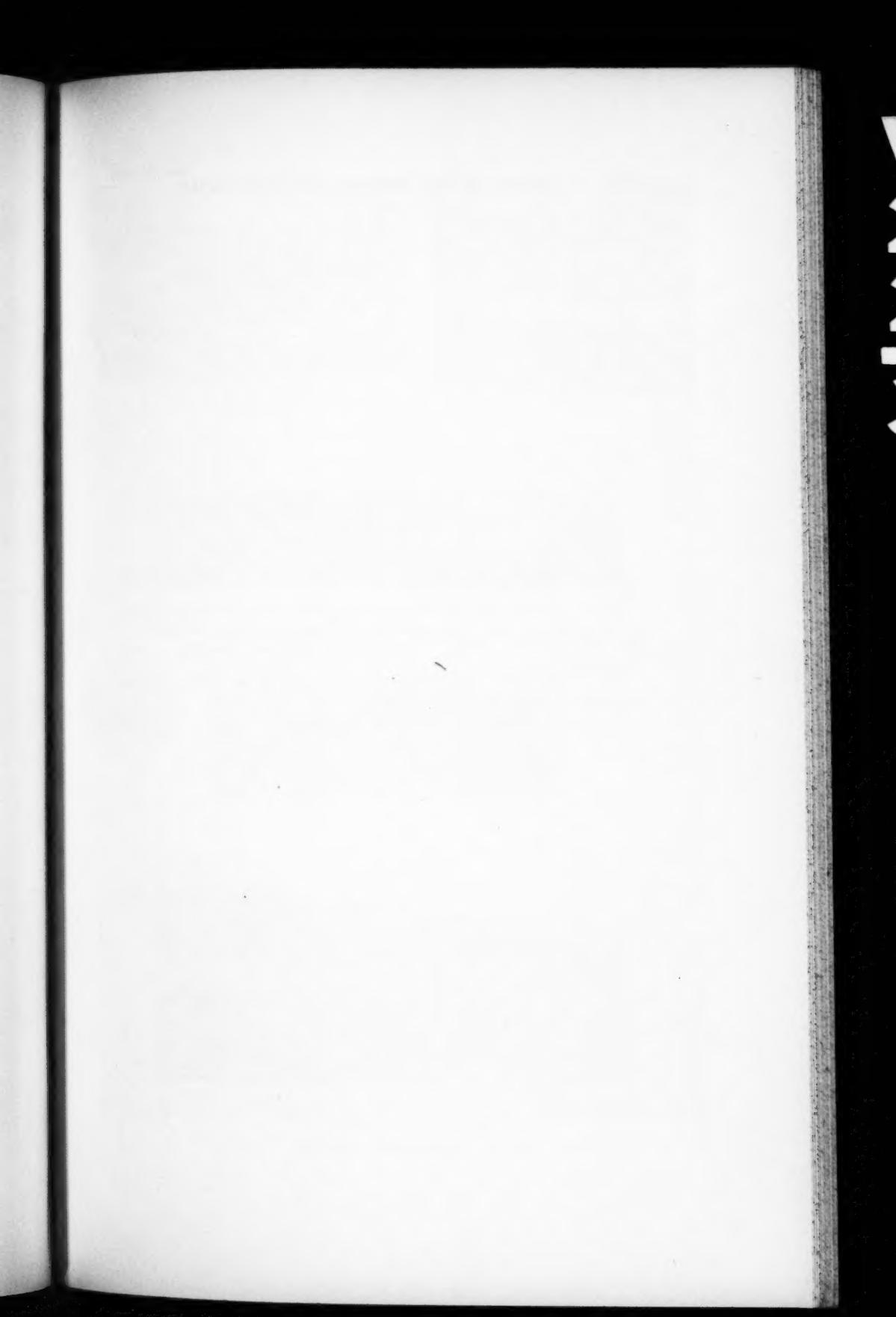
Fig. 4. La Motte sandstone bluffs with *Pinus echinata* above, Ste. Genevieve Co.

Fig. 5. Sandstone outcrops on high prairies, Jasper Co., locality for *Geocarpus minimum* and other rare species.



PALMER & STEYERMARK—PLANTS OF MISSOURI





EXPLANATION OF PLATE

PLATE 18

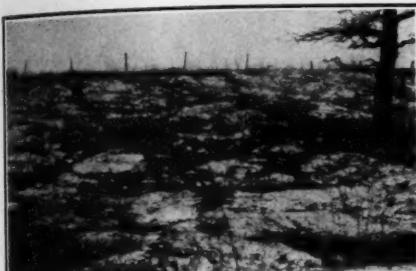
Fig. 1. Chert glades, outcrops of Grand Falls chert, Jasper Co.

Fig. 2. Dolomite ledges near top of bald knob, with *Delphinium Treleasei*, Barry Co.

Fig. 3. Loess mounds, Holt Co., showing high plains and prairie vegetation on exposed ridges and slopes, and beginnings of forest in depressions and ravines. A good example of the influence of exposure to winds and evaporation on floral formations.

Fig. 4. Alluvial bottoms of Missouri River, with lake in distance and loess mounds on sky-line in background, Holt Co.

Fig. 5. Glaciated prairies topography, Schuyler Co.



1



2



3



4



5

PALMER & STEYERMARK—PLANTS OF MISSOURI



EXPLANATION OF PLATE

PLATE 19

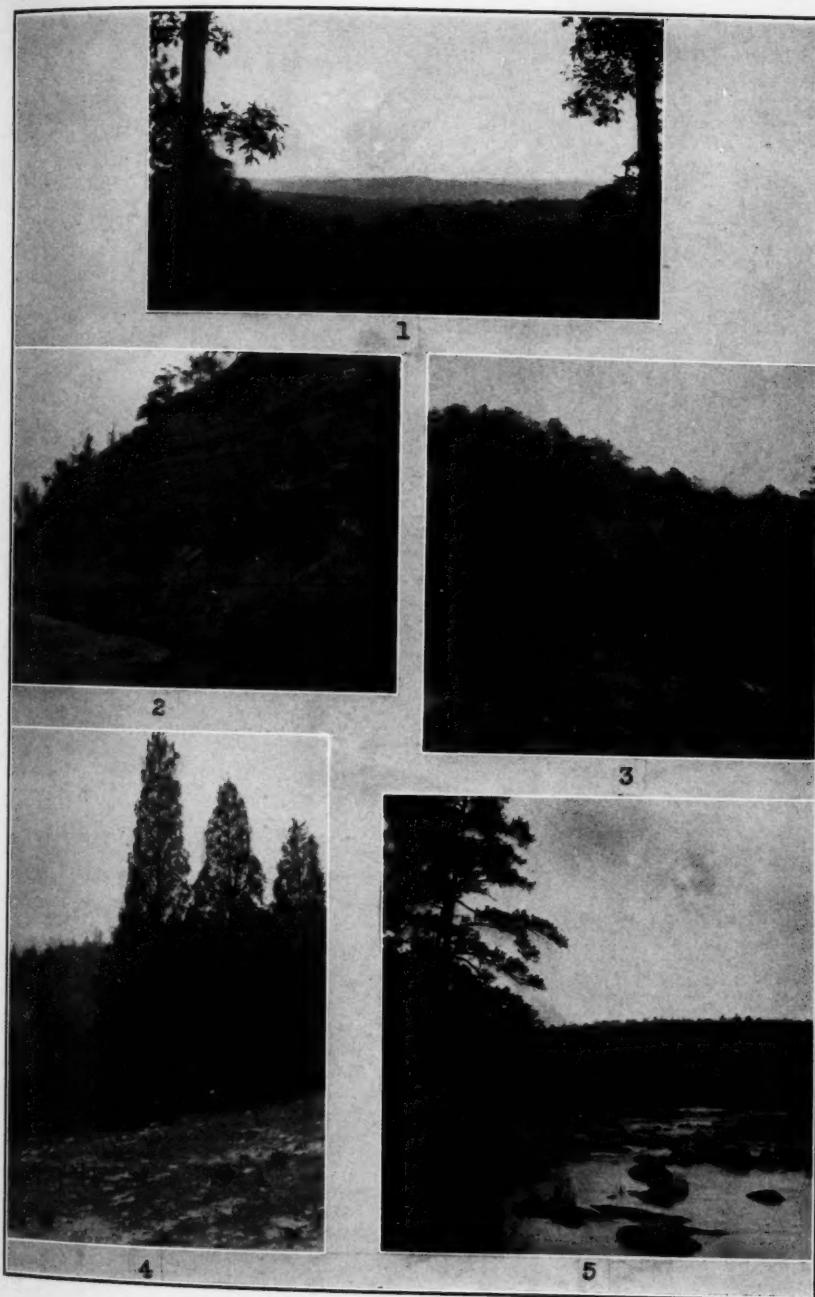
Fig. 1. Densely forested country typical of the Ozark region near the influence of streams, and showing accordant levels of hills carved by erosion from old peneplain, Shannon Co.

Fig. 2. Butler Bluff, McDonald Co., locality for *Cheilanthes alabamensis* and other southwestern species.

Fig. 3. Porphyritic trachyte bluffs of "shut-in" near mouth of Little St. Francis River, Madison Co.

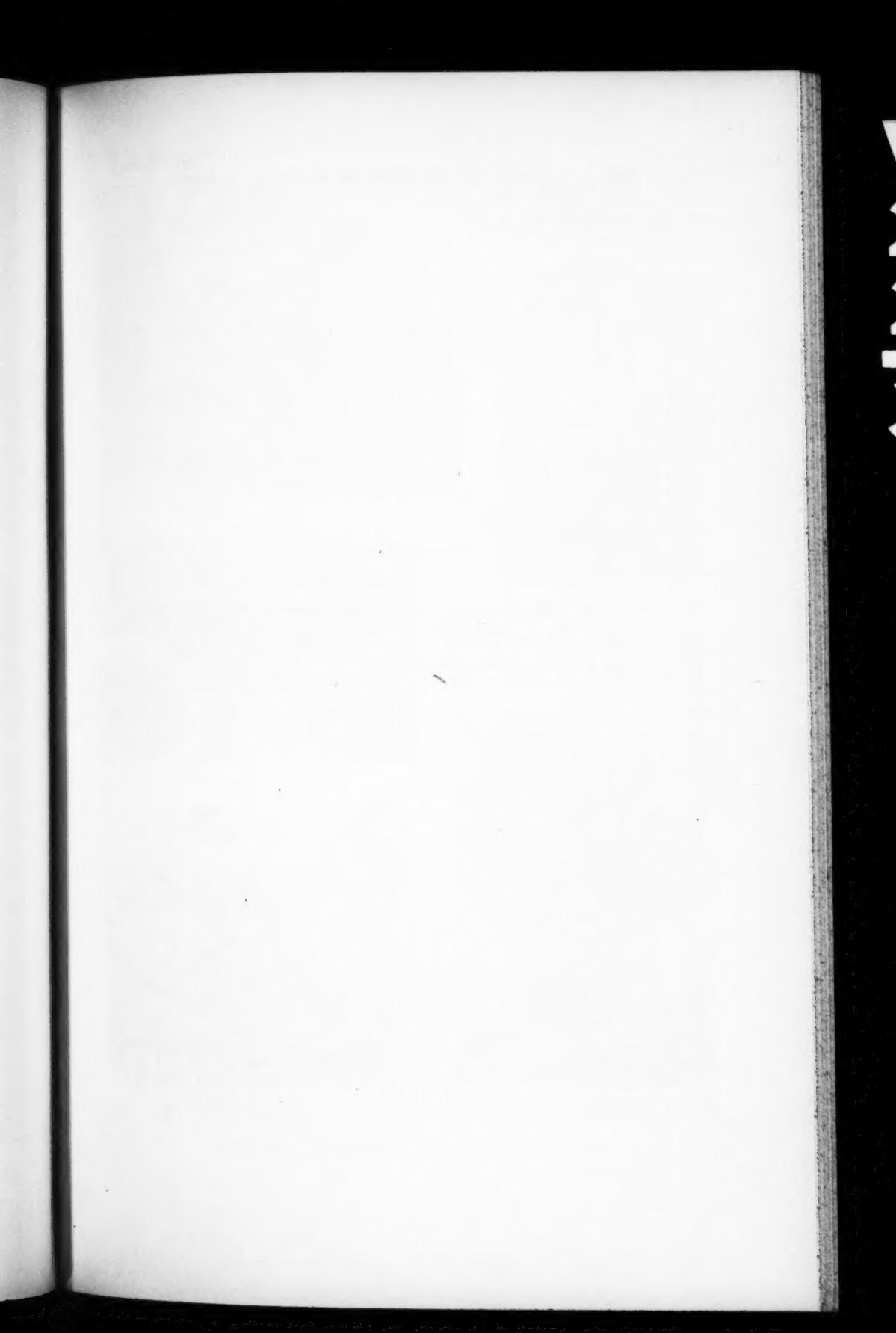
Fig. 4. Limestone glade (Joachim limestone), Jefferson Co., with typical development of *Juniperus virginiana* in background and clumps of *Clematis Fremontii* on exposed portions.

Fig. 5. "Shut-in" along Little St. Francis River, Madison Co., typical of the Iron Mountain area of igneous rocks in the eastern Ozark region where a number of eastern and Appalachian species, such as *Hamamelis virginiana*, *Ilex verticillata* var. *padifolia*, *Rhododendron nudiflorum* var. *roseum*, and *Pedicularis lanceolata*, are found.



PALMER & STEYERMARK—PLANTS OF MISSOURI

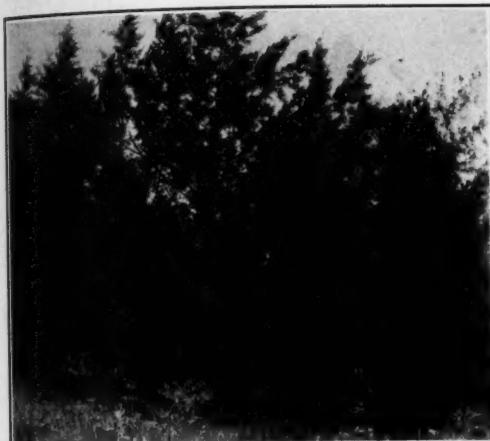




EXPLANATION OF PLATE

PLATE 20

- Fig. 1. *Juniperus mexicana*, on bald knobs along White River, Barry Co.
Fig. 2. *Fagus grandifolia* var. *caroliniana*, in low woods, Butler Co.
Fig. 3. *Taxodium distichum*, in swampy woods, Mississippi Co.
Fig. 4. *Pinus echinata*, Shannon Co.
Fig. 5. *Amelanchier canadensis* (large tree form), Schuyler Co.



1



2



3

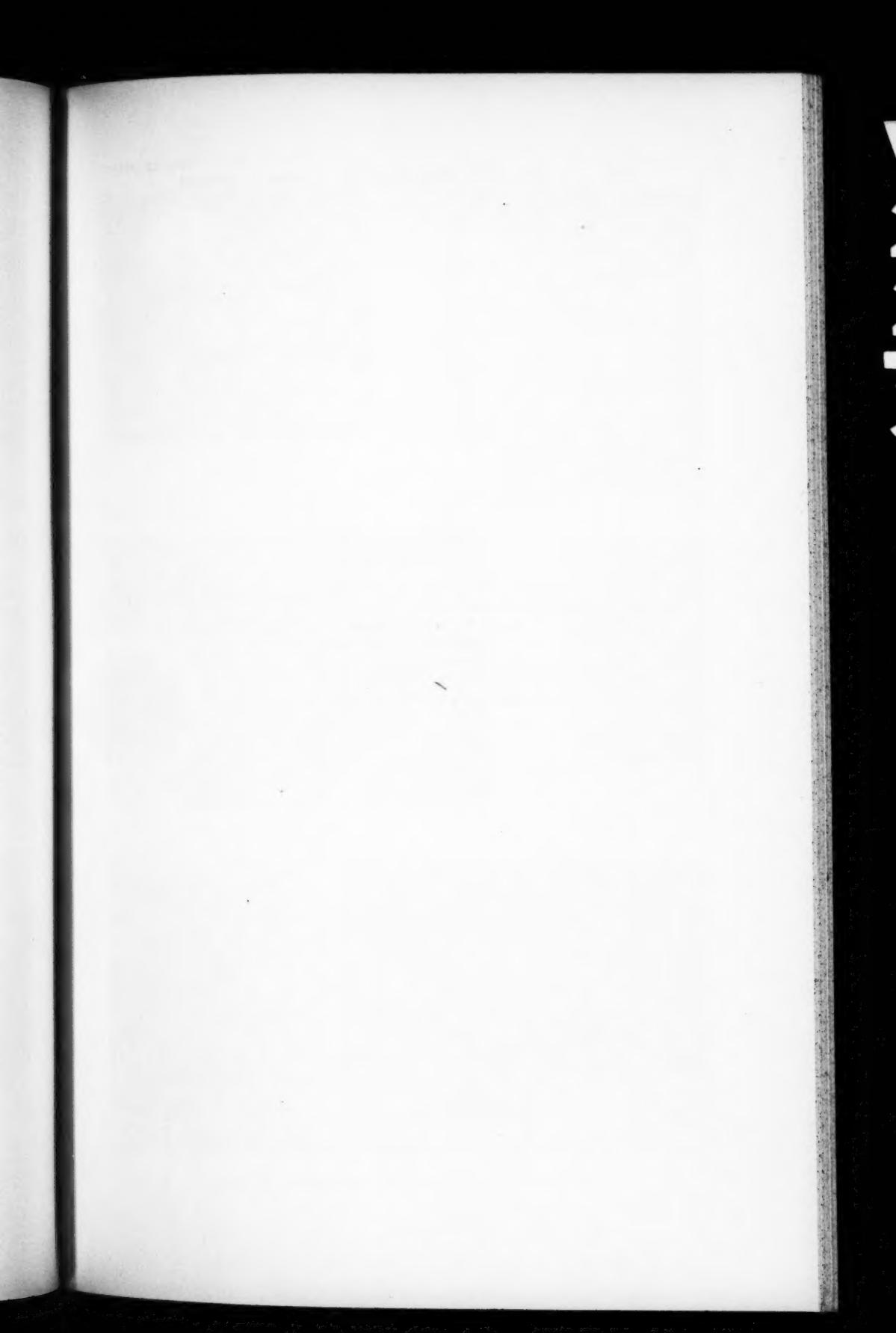


4

5

PALMER & STEYERMARK—PLANTS OF MISSOURI





EXPLANATION OF PLATE

PLATE 21

Fig. 1. *Rhododendron nudiflorum* var. *roseum*, on wooded granitic slope, Madison Co., southeastern Ozark region.

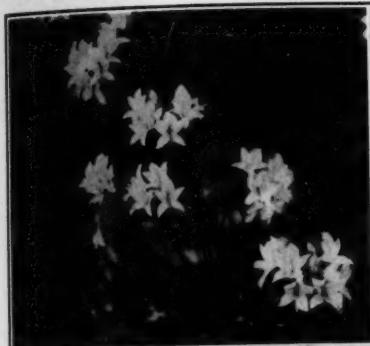
Fig. 2. *Pentstemon Cobaea* var. *purpureus*, on bald knobs, Taney Co.

Fig. 3. *Oenothera missouriensis*, on bald knobs, Barry Co.

Fig. 4. *Erigeron pulchellus*, in open woods, Jefferson Co.

Fig. 5. *Clematis Fremontii*, in limestone glade, Jefferson Co.

Fig. 6. *Sedum pulchellum*, in limestone glade, Jasper Co.



1



2



3



4



5



6



